KU LEUVEN

FACULTEIT SOCIALE WETENSCHAPPEN

Housing affordability and the effect of housing subsidies

Kristof HEYLEN

Proefschrift aangeboden tot het verkrijgen van de
graad van Doctor in de Sociale Wetenschappen

Promotor: Prof. Dr. Jos Berghman (†)
Co-promotor: Prof. Dr. W. van Oorschot
Onderzoekseenheid: Centrum voor Sociologisch Onderzoek

2014

ASSOCIATIE KU LEUVEN

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Nr. 265

2014

Samenstelling van de examencommissie:

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Gepubliceerd door:
Faculteit Sociale Wetenschappen - Onderzoekseenheid: Centrum voor Sociologisch Onderzoek [CeSO],
KU Leuven, Parkstraat 45 bus 3601 - 3000 Leuven, België.

D/2014/8978/12

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Dankwoord

In de eerste plaats gaat mijn dank uit naar mijn promotor, prof. dr. Jos Berghman, die onverwacht overleden is op 10 oktober 2014. Het bericht van zijn overlijden heeft mij diep geraakt. Toen ik hem contacteerde in verband met een mogelijk doctoraatstraject, was hij meteen enthousiast. Zijn kennis en onderzoekservaring hebben mij sterk vooruit geholpen. Hij zag verbanden waar ik ze niet zag en plaatste in één oogopslag bepaalde resultaten in een ruimere context. Ik heb hem ook leren kennen als iemand met een warme persoonlijkheid, iemand die je aanmoedigde wanneer het even minder ging.

Ik wil de leden van de examencommissie bedanken voor hun bereidheid om mijn werk te lezen en te beoordelen. Het zijn onderzoekers waar ik een groot respect voor heb, en hun opmerkingen schat ik zeer hoog in. Dank ook aan de leden van de begeleidingscommissie, co-promotor prof. dr. Wim van Oorschot en prof. dr. Jozef Pacolet, om mij tijdens het doctoraatstraject van uitgebreide feedback te voorzien.

In het bijzonder wil ik ook dr. Marietta Haffner bedanken. Zonder haar was er geen vergelijking tussen Vlaanderen en Nederland geweest. Ik heb veel van haar geleerd wat de conceptuele benadering van het woonbeleid betreft en hoop in de toekomst nog op een even inspirerende wijze te kunnen samenwerken. Onze gezamenlijke artikels vormen de basis van het doctoraatstraject. Voor bepaalde artikels liep de publicatie niet van een leien dakje, maar ik ben blij dat we nooit hebben opgegeven.

Voorts gaat mijn dank uit naar Sien Winters, onderzoeksleider over ‘thema wonen’ op het HIVA. Zij heeft mij de kans gegeven om gedurende vele jaren op boeiende, maatschappelijk relevante thema’s te werken. Ook heeft ze mij gestimuleerd om internationale valorisatie van onderzoeksprojecten na te streven, waardoor het doctoraat mogelijk is geweest. Verder wil ik Sien en de andere collega-onderzoekers binnen het Steunpunt (Ruimte en) Wonen bedanken voor de vele interessante discussies over de uitkomsten van ons woononderzoek en het (te volgen) woonbeleid.

Ook richt ik een woord van dank aan het Steunpunt Ruimte en Wonen (2007-2011) en de opvolger Steunpunt Wonen. De onderzoeksresultaten uit het proefschrift komen voort uit projecten die gefinancierd zijn door deze Steunpunten. Daarnaast wil ook de leden van de begeleidingsgroepen in deze Steunpunten bedanken, die feedback hebben gegeven op de resultaten en het onderzoek mee hebben gestuurd.

Ik wil eveneens Kristien Hermans van de ‘phd school’ bedanken voor mij wegwijs te maken in de administratie van het doctoraatsgebeuren en steeds tijd voor mij te maken als ik langskwam. De HIVA-collega’s wil ik bedanken voor de aangename, vriendschappelijke werksfeer. De jaren op het HIVA zijn voorbij gevlogen, wat voor een groot stuk hieraan te

danken is. Ook richt ik een woord van dank aan familie en vrienden. Zij hebben mij steeds gesteund en hebben nooit geklaagd wanneer er een afspraak diende verzet te worden omwille van ‘weer een deadline’. Vanaf nu zal er terug meer tijd zijn.

Leuven, 17 november 2014

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Chapter 1

Introduction, theoretical framework and housing policy in Flanders and the Netherlands

1.1 Introduction

Due to continuous house price rises in Western countries in recent decades, housing affordability has internationally been high on the agenda, both in public debate and academic research. In Flanders, between 1995 and 2005, house prices doubled whereas land prices even tripled in nominal terms. At the same time, the disposable income of households only grew to a limited extent, raising the concern that housing became unaffordable for a growing part of the population. Consequently, discussions were raised about the effectiveness of subsidy schemes directed at the housing cost. It was questioned whether the housing subsidies were reaching the groups that need it the most. In this study, these issues are addressed for Flanders and neighboring country the Netherlands. The affordability of housing and the distributive impact of housing subsidies are the central research topics.

Flanders and the Netherlands are interesting cases for comparison, since living standards are at the same level, whereas the housing market structure and housing policy schemes largely differ. Flanders, for instance, is characterized by 74% of owner-occupiers whereas this rate is only 56% in the Netherlands. Further, social housing accounts for 35% of the housing market in the Netherlands and only 6% in Flanders. Housing allowances are received by about one third of Dutch tenants whereas in Flanders this type of subsidy is almost non-existent. Finally, mortgage tax relief is available in both Flanders and the Netherlands, but the functioning of the system largely differs. We will explore how these structural differences affect the affordability outcome, and to what extent different policy schemes generate a different distributional impact.

In the first part of this study, a problem analysis is carried out concerning the affordability of housing in Flanders and the Netherlands, by using data for 2005/2006. Affordability will be measured by two different methods: the cash flow and the user cost method. It will be explored to what extent different groups are dealing with affordability problems in terms of income group and tenure type. In addition, the possibilities and limitations of the two approaches will be stressed.

Traditionally, affordability studies explore the relationship between housing expenses and household income, in which the cash flow spent on housing consumption is the central concept. In the rental sector, rent payments are analyzed whereas the mortgage payment is the central concept for homeowners. In this type of studies, two affordability indicators are often used: the expenditure-to-income ratio and the residual income, which is the disposable household income left after housing expenses. In this so-called short term approach, standards are used to distinguish the group facing affordability problems. But affordability can also be explored in the long run, by applying the user cost concept to housing. A long-term analysis focuses on the cost of housing consumption, which may be different from the financing of housing consumption in the short-term. In the user cost approach, the opportunity cost of owner's equity and the capital gains (or losses) are also included in the cost of housing (Hancock, 1993; Quigley & Raphael, 2004). In literature, affordability is generally explored

from one of the two perspectives. In this study, one chapter will focus on the user cost approach whereas another chapter is dedicated to the cash flow approach.

In the second part of the study, the current policy solutions that affect the cost of housing are addressed (housing subsidies), with respect to their distributive impact. In Flanders and in the Netherlands, several housing subsidy schemes exist that lower the cost of housing and therefore enhance affordability. It will be explored whether these housing subsidies are effective from the perspective of vertical equity. The efficiency of these measures will remain out of scope.

Housing subsidies can take many forms. They may involve budget expenses, tax expenditure or market regulation and can be directed at tenants or owner-occupiers (Flood & Yates, 1990). Some instruments, such as social housing or housing allowances, explicitly aim to improve affordability for lower income groups, for instance by applying a means-test. In contrast, tax advantages related to housing are generally less selective and also serve other policy goals besides affordability. Nonetheless, by affecting the cost of housing, these tax measures likewise affect the affordability of housing. Mortgage tax relief, for instance, has a general goal of stimulating homeownership by lowering the cost of mortgages (Hoge Raad van Financiën, 2002).

Similar to the affordability analysis, also the housing subsidy analysis will be performed with both a cash flow and user cost approach, as Table 1.1 clarifies. The user cost or long-term perspective allows for exploring the impact of all types of housing subsidies, by comparing the actual user cost to a theoretical cost, which is the cost in case the subsidy would not exist. This approach allows for the analysis of implicit subsidies and one-off benefits. In contrast, in the cash flow (short term) approach only explicit and recurrent subsidies can be dealt with. These are the subsidies that can be distinguished in the cash flow of households (e.g. housing allowances, mortgage tax relief). They may be linked to disposable income, entailing that the impact on poverty and income inequality can be explored.

Table 1.1 Research structure for analyzing housing affordability and the impact of related subsidies.

Method	*Affordability*	*Subsidy impact*
User cost (long-term)	Chapter 2	Chapter 4
Cash flow (short-term)	Chapter 3	Chapter 5

The analyses are carried out on Flemish survey data for 2005 (*Woonsurvey*) and Flemish administrative data on subsidy measures for 2008, whereas the Dutch results are based on survey data for 2006 (*WoON*).

In the next sections of Chapter 1, we describe the theoretical framework, including the relationship between housing policy and the welfare state, redistribution by housing policy, housing systems, and the concepts of affordability and housing subsidies. In a third section of this chapter an overview is presented of the history of housing policy in Flanders and the Netherlands. A fourth section discusses the related government budgets, whereas in a last section the housing policies in Flanders and the Netherlands are discussed within the theoretical framework.

In our study, the following core research questions will be addressed:

- What is the situation in Flanders and the Netherlands in terms of housing affordability, according to income groups and tenure?
- What is the distributional effect of the current housing subsidies? Which mechanisms lead to these outcomes?
- To what extent do the housing subsidies reach the income groups and tenure for whom affordability is most problematic? What are the differences between Flanders and the Netherlands?

In three of the four research chapters, Flanders is compared to the Netherlands. In Chapter 4, only the distributive impact of housing subsidies in Flanders is addressed. However, in the final chapter these Flemish results will be compared to Dutch figures from a recent study (Haffner & Heylen, 2014).

In the last chapter, the results of the four chapters will be brought together and overall conclusions will be drawn. The main findings will be discussed within the current policy framework. Also, the strengths and limitations of the study will be discussed, before making suggestions for further research.

1.2 Theoretical framework

1.2.1 Housing and the welfare state

According to several authors, housing can be seen as the fourth pillar of the welfare state, in addition to social security, healthcare and education. In contrast to the other pillars, housing is characterized by high capital intensity and a strong market-orientation. Whereas the other pillars often include universal forms of public provisions by the state, paid by taxes and social security contributions, this has hardly been the case for housing, where provision by the private market is dominant. In the field of housing, directly provided public services have always been targeted at a minority of the population. Moreover, even targeted social housing is offered at a much higher rate of the market price than health care or education (Kemeny, 2001). Because of this ambiguous position of housing in the welfare state, implying a wide variation of kinds of housing, housing is often called the ‘wobbly pillar of the welfare state’.

Nonetheless, Kemeny (2005) argues that housing is a crucial part of the welfare state and more specifically that the housing market structure is related to the level of welfare provisions. He argues that homebuyers make higher costs at early stages in life, while benefiting from lower housing expenses at older age. In this way, outright homeownership among elderly can be regarded as an additional pension, and the monthly mortgage payments as contributions to this pension. Related to this life cycle aspect of homeownership, Kemeny states that in countries with a high homeownership rate the scope of social provisions and the level of expenditure for the welfare state are lower than in countries with a low ownership rate, without specifying a causal relationship. Castles (1998) calls the empirically found relationship between a high level of homeownership and a low level of expenditure on pensions in OECD countries a 'really big trade-off'. The link between homeownership and pensions can be explained by two propositions: it can be argued that high mortgage burdens diminish the willingness to pay for high social security transfers and act as a constraint. In contrast, the need for a generous social security system may diminish in case of widespread homeownership, as outright owners can maintain a decent living standard on relatively low pensions.

In recent years, the idea grows that housing may be a cornerstone of the welfare system because of its capital-intensive nature. The owner-occupied dwelling is increasingly regarded as a way of accumulating assets, providing a considerable 'in kind' income which may be addressed 'in cash' at older age, either by trading down to cheaper housing, moving to a rental dwelling or by mortgage equity release. The latter implies that households can realize all the equity in their dwelling by reverse mortgage products, enabling them to stay in their home until they die. However, in contrast to other European countries including the Netherlands, in Belgium lenders are not allowed to provide these financial products (Doling & Elsinga, 2012).

1.2.2 Redistribution by housing policy

One of the central principles of the welfare state is the equitable distribution of wealth in order to protect and promote the social well-being of its citizens. By means of a redistribution of resources - through taxation, social security and social provisions - income differences in society are reduced (Barr, 1998). Redistribution can take place in a vertical or a horizontal way. Vertical equity refers to the redistribution of income from the rich to the poor (e.g. by progressive taxation), while horizontal equity involves the equal treatment of citizens in an equal situation (e.g. family benefits with fixed amounts). Several theories of social justice have emerged that argue how a fair redistribution of income should be arranged (Barr, 1998). Despite their fundamental differences, these theories agree on the fact that redistribution policy should lower social inequality (Lux et al, 2009).

It is the 'vertical equity' of housing policy that will be addressed in this study. National or regional housing policy always includes various objectives. The policy objective that is mostly related to vertical redistribution is the aim to increase affordability for lower income

groups, which is a central goal in both Flemish and Dutch housing policy. This goal can be addressed by, among others, targeted housing allowances, rent control or social housing. But also other policy objectives may involve redistribution to lower income segments. For instance, the aim to improve housing quality in specified market segments (e.g. by targeted renovation grants) may benefit the lower income groups to a larger extent. As tax subsidies aimed at owner-occupiers do not involve a means-test, they generally reach lower income groups to a lesser extent.

Different arguments exist for organizing subsidization by housing related transfers. A first is the merit-good argument, which states that citizens underestimate the importance of decent housing. This paternalistic view entails that decent housing is an essential part of a minimum living standard (Hills, 1991). Secondly, certain authors regard redistribution to the poor as being of rational interest to the rich. Good housing can be seen to prevent social unrest or to improve the health and productivity of the workforce. Thirdly, housing policies are being justified for countering segregation trends or on the grounds of externalities, for instance the positive impact of good quality housing on the neighborhood and - related to this - general health and well-being. Also macroeconomic reasons have been given for state intervention in the field of housing, such as subsidizing investment in order to keep inflation down (Hills, 2001).

The importance of vertical equity in the field of housing subsidies is highlighted by Flemish policy legislation. In Flemish housing policy, the central objective is the realization of the right to decent housing, which in Article 3 of the Flemish Housing Code is translated in terms of affordability, housing quality, housing security and availability. Article 4 of the Flemish Housing Code states that Flemish housing policy should pay particular attention to the neediest families and singles. In line with this special objective, several Flemish housing subsidies are directed at lower income groups by applying income admission criteria, both in the rental and owner-occupied sector.

Not every social benefit or service will be effective in targeting the lower incomes. The term ‘Matthew effect’ is used for referring to policies that involve a distribution of means from the poor to the rich. This concept was, in Belgium, introduced in social policy by Deleeck (University of Antwerp) and refers to the frequently observed finding in welfare states that the middle and upper social groups proportionally benefit more from social benefits and services than the poorer groups, even though many of the measures are primarily aimed at the poor (Deleeck et al, 1983). The reference to Matthew refers to a fragment of the Gospel according to Matthew (from the Parable of the Talents): "For to everyone who has, more shall be given, and he will have an abundance; but from the one who does not have, even what he does have shall be taken away (Matthew 13:12).” In this study the concept will be applied in the context of housing policy (see also De Decker, 2000).

1.2.3 Housing systems

Within the field of comparative housing, different theoretical frameworks are developed that allow for positioning countries according to characteristics of the housing market. Two influential authors of the so-called 'housing systems' or 'housing models' are Harloe (1995) and Kemeny (1995). Harloe distinguishes two basic models of social housing: a residual and a mass model. The former includes a rented sector with social housing by small-scale programs targeted at the poorest groups in society - leading to a stigma - whereas the latter involves large-scale subsidized building activities in social housing for a wider target group, including the middle-class. According to Harloe the residual model is the standard model while the mass model is only applied in times of crisis when the market is unable to make profit out of housing provision.

The most influential theory on housing models is the one by Kemeny, who in contrast to Harloe sees the housing sector as a crucial part of the welfare state. He assumes that international differences in housing market structures are caused by differences in the social and political structures and more specifically in the degree of privatism (as opposed to collectivism). Kemeny distinguishes two systems: a dualist and a unitary rental system. He does not use the concepts of private and social renting, but rather applies the related concepts profit and non-profit renting. Unitary rental markets are regarded as markets without any regulatory restrictions for competition between profit and non-profit providers. In contrast, in dual rental markets non-profit providers are separated from the profit-rental providers by government regulation, with a result that no direct competition takes place. Dualist rental systems are characterized by a privatist ideology, with a large difference in rent level between the private rented (profit-providers) and a strongly regulated and subsidized social rented market (non-profit providers). In the dualist system, social housing functions as a safety net for the poorer people. It includes a strong concentration of low income groups, accompanied by a level of stigmatization. The size of the social rented sector is relatively small, since financial resources are drawn from the non-profit sector when it reaches a certain level of maturation (by selling social rented dwellings at a discount rate). There is strong market segmentation, with a dominant owner-occupied sector while the private rental market is for those who do not want to buy and social housing for those who are not able to buy.

Unitary rental markets are instead formed by a collectivist ideology. The difference between the rental levels in the private and social rented sector is relatively limited. Moreover, rents are moderate in both sectors and there is little difference with regard to regulation and subsidies granted by the government. Social housing does not operate as a safety net but offers direct competition to the private rented sector. This entails that the social rented sector is relatively large and not aimed at the poor but at broader segments of the housing market. Subsidies regarding social housing are phased out as the sector matures, in order to enhance direct competition. Finally, market segmentation in a unitary rental system is limited. The position of owner-occupation is less dominant and all sectors compete with each other (Kemeny, 1995; Hoekstra, 2009; Elsinga et al, 2008).

Kemeny argues that non-profit housing in unitary rental markets undergoes a process of maturation. This process refers to the increasing solidity (ratio of equity to market value) of non-profit providers over time, as a result of repayment of debt and appreciation of market values. It enhances the competitiveness of non-profit providers, enabling them to set lower rents than the market value. According to Kemeny (2005), at first, subsidies and rent regulation can play an important role in the survival of the (at starting point small) non-profit providers and their maturation. Nonetheless, once the sector has grown relatively large, no subsidies are needed anymore in order to be competitive with the commercial sector. Kemeny uses the term 'integrated rented market' for a non-profit rental sector that has grown to a substantial level. In case maturation takes place for a private landlord, the reaction will be different. Instead of lowering the rents (as is the case for non-profit providers), rents will be charged that exceed the actual incurred costs, yielding higher profits. Nevertheless, as Kemeny argues, even in integrated rented markets state intervention will be at stake, for instance by setting eligibility criteria in exchange for subsidies, or to keep a certain degree of tenant protection, by imposing a market-sensitive rent regulation or a security of tenure (Kemeny, 2005; Elsinga et al, 2008).

1.2.4 Housing affordability

Definition

There are many concepts with which the affordability of housing is measured (Gabriel et al, 2005; Freeman et al, 2000; Quigley & Raphael, 2004). Affordability analyses may be based on out-of-pocket expenses needed by households to finance their housing consumption or based on user costs of the capital embodied in the dwelling. This is not an exhaustive list, but it shows why Wilcox (1999) called the concept of affordability of housing a 'vexed' one. It means different things to different people (Quigley & Raphael, 2004, pp. 191-192):

> [it] jumbles together in a single term a number of disparate issues: the distribution of income, the ability of households to borrow, public policies affecting housing markets, conditions affecting the supply of new or refurbished housing, and the choices that people make about how much housing to consume relative to other goods.

The literature about housing affordability traditionally focuses on one type of affordability concept. It is what Hancock (1993, p. 140) calls the 'short run costs' being the out-of-pocket cash flows or expenses that households make to finance the access to their home. Hancock (1993, p. 140) contrasts this concept with the 'long run ability' of households to pay the so-called user costs or price of housing consumption. Affordability is about three elements, as the often referred to definition by Maclennan & Williams (1990; Freeman et al., 2000; Hancock, 1993, p. 129; Whitehead, 1991) shows:

> ‘Affordability’ is concerned with securing some given standard of housing (or different standards) at a price or a rent which does not impose, in the eyes of some third party (usually government) an unreasonable burden on household incomes.

Looking at the definition of the price or rent, the concept of opportunity cost may be a helpful one to distinguish between both concepts of affordability. Whitehead (1991, p. 873) defines affordability as ‘the opportunity cost of housing vis-à-vis other goods and services’ (see also Stone, 2006a). Opportunity cost of housing is then about ‘what has to be foregone in order to obtain housing’ (Hancock, 1993: 129).

Opportunity ‘cost’ in relation to expenses in terms of what has to be forgone can be regarded as using current household income for housing consumption instead of other consumption (or saving). This forgone income for other purposes, called cash flows, cash or out-of-pocket outlays or expenses, is used to finance the access to a dwelling at a certain moment in time without taking into account any future, or for that matter past, developments in these cash flows. It is about the out-of-pocket expenses of a household that are needed to finance housing consumption at the moment of measurement. The label of ‘short run’ in connection with affordability will thus be an understandable one (Hancock, 1993). For tenants the expenses come in the form of rent; for owner-occupiers in the form of expenses to finance the mortgage loan (interest and capital repayment).

Long run affordability is the long run ability to finance housing consumption (Hancock, 1993). The long run aspect is embodied in the term ‘cost’, which may not be equal to the expenses. Such a distinction becomes necessary when in the (neo)classical economic line of thought there is an investment good that generates a flow of services (see the seminal article of Hall and Jorgenson, 1967), being housing services in the case of housing. It is these housing services that are consumed, not the dwelling itself. The cost of using or consuming such a service will have to be determined or attributed based on the purchase price of the dwelling, the value changes of it and other costs of managing the dwelling. The user costs of capital are thus the costs of using or consuming one unit of housing services during a period. It is about the opportunity cost or revenue forgone of investing in housing instead of putting the funds into the best alternative investment.

The owner of a dwelling will calculate the user costs of housing consumption to determine the costs of one unit of housing services. If the owner is a landlord, the owner will set the rent for the tenant at that level. If the owner is an owner-occupier, the owner will impute this cost or ‘rent’ to the occupier. The rent is fictitiously set. In both tenures the occupier ‘pays’ the costs or price of housing consumption. In theory, the price is equal for the same quantity of housing services in renting and owner-occupation (see also Himmelberg et al, 2005). In theory the rent as expense will also be equal to the user costs for the rental service, while for owner-occupiers expenses and costs of consumption will differ.

Quality standard

According to the above definition of affordability (by MacLennan & Williams), next to the price or rent of housing, two standards will be needed to determine the extent of affordability of housing for households. The first is a standard of reasonableness of the price paid for housing consumption in relation to income. With this standard it is possible to determine the size of the group of households for whom housing will be unaffordable from an income point of view (see further). Second, a standard for housing quality is needed. Without a standard for housing quality to be consumed it is not possible to be certain whether housing indeed is unaffordable as quality influences this evaluation (Thalmann, 2003). Housing can be unaffordable because of over-consumption, while it can be affordable due to under-consumption. In the first case a household might be living in a dwelling that is 'too big', such as in the case when older people whose children have moved out may choose not to downsize. Over-consumption (or over-housing) may also occur because of investing in 'too expensive' housing. Under-consumption (or under-housing) occurs when households live in poor quality housing or housing which is 'too small' in relation to household size (over-crowding) in order to keep housing affordable within their budget.

Whitehead (1991) summarizes the above reasoning as follows:

> only those households who given their income and the cost of their housing, could not potentially consume the required level of housing without breaking the affordability criteria are regarded as having a[n affordability] problem. (p. 875)

The actual consumption pattern can differ from the potential one, either by personal choice or by constraints (Hancock, 1993). If it is about personal choice –about not being willing to pay the price– one cannot speak of an affordability problem. Neither would there be an affordability problem in the cases of over-consumption or over-housing. In the case of constraints –e.g. choosing between housing or other consumption– and either under-consuming housing or under-servicing non-housing needs, unaffordability will be a reality. From an expenses' point of view the latter situation has been called 'shelter poverty' (Stone, 2006a).

Despite the attention that this quality element gets in literature, it remains out of the scope of most studies on housing affordability. For a theoretical elucidation on the aspect of housing quality related to affordability we refer to the work of Hancock (1993) and Thalmann (1999).

Short run affordability

Regarding affordability in the short-term - about the recurrent out-of-pocket expenses to finance housing consumption - Stone (2006a, p.151) proposes the following definition:

> Affordability expresses the challenge each household faces in balancing the cost of its actual or potential housing, on the one hand, and its non-housing expenditure on the other, within the constraints of its income.

The measurement of affordability 'in the short run' thus generally includes two elements: a measure for the relationship between housing expenditure (the indicator) and a standard in relation to income (Stone, 2006a). In the following paragraphs the two most applied and well-known affordability indicators will be discussed: the ratio and the residual income. For the sake of clarity, we focus on these two indicators. We are yet aware of the fact that many other affordability indicators exist, such as measures that relate the price of typical dwellings to disposable income or measures that involve poverty lines (Stone, 2006a; Gabriel et al, 2005).

The oldest and most well-known indicator for housing affordability is the ratio approach, which expresses the ratio of the housing expenses to the available household income. In general, this approach includes an affordability standard (norm) varying between 20% and 33%. When a household's ratio exceeds this threshold, housing is assumed to be 'not affordable'. Figure 1.1 illustrates the logic of this affordability approach, in a diagram showing the expenses for non-housing consumption on the vertical axis and the housing expenses on the horizontal axis. The line *or* illustrates the ratio norm, which in this diagram is set at 30%. Any point below this line represents a combination of residual income (non-housing consumption) and housing expenses (housing consumption), with housing expenses higher than 30% of disposable income. This area (B+D) represents the group for whom housing is regarded unaffordable. All combinations above this line represent a housing expenditure-to-income rate lower than 30%. For these households, housing is regarded affordable.

Besides the use in housing research, the ratio is also often applied in the banking and social housing sector (Hulchanski, 1995). In the financial sector the ratio is applied to evaluate the liquidity of a potential mortgagor, in the form of borrowing constraints. In many countries it is used as an admission criterion for social housing, as an element in the rent calculation or as an element in the calculation of housing allowances (De Decker & Van Dam, 2005). In research the ratio will generally be used to compare means between different groups, to evaluate an evolution over time or to calculate the size of the group for whom housing is not affordable (Haffner & Boumeester, 2010; Quigley & Raphael, 2004).

The residual income (RI) is calculated by subtracting the housing expenses from the available or disposable household income. Hence, this indicator expresses the consumption possibilities in absolute terms after paying for housing (Hancock, 1993). The housing situation will be 'not affordable', if the residual income is too low for the consumption of other necessary goods and services. This reasoning is rooted in the notion that housing expenses have a different nature than expenses for e.g. food and clothing. It is for instance less easy – or in the short run even impossible – to cut back fixed housing expenditure than most other expenditure.

Because housing expenses usually make the biggest and least flexible claim on the household budget, it makes it logical to analyze the income after deduction of rent or mortgage payment with the residual being the amount available for consumption (Freeman et al, 2000; De Decker & Van Dam, 2005). The budget standard approach is often used for drawing RI-standards. With this approach – per household type - a basket of minimal necessary goods and services is determined that allows for minimal participation in society. Once the content of the basket is fixed, prices are calculated and added to draw up the standards. When housing costs are taken out of this basket, norms for non-housing consumption are generated. If the residual income is below this norm, housing is regarded as 'unaffordable' (Stone, 2006a; Hancock, 1993; Freeman, Kiddle & Whitehead, 2000). In figure 1.1 the standard for residual income is noted as nh*, which is the non-housing consumption needed for a decent living standard. Any point above the *nh*b* line represents a situation where housing expenses are considered affordable. Any point below this line represents a residual income which is considered to be insufficient.

As the diagram illustrates, households may have more left after their housing expenses than *nh**, but still spend more than 30% of their income on housing (area D). This group will most likely include households with a middle or high income with a strong preference for housing. The higher the income for non-housing consumption, the more a position in area D signals a choice for large or luxury dwellings. On the other hand, households may fall below the 30% expenditure-to-income ratio, while having no sufficient income left for reaching a decent living standard (area A). This group will mostly include households with a lower income and relatively low housing expenses. In this group, chances are higher that housing consumption does not meet minimal standards (e.g. overcrowding, lack of basic comfort). The situation where housing is considered unaffordable by both methods is illustrated by area B. For these households housing consumption is more than 30% of disposable income, while the income left for non-housing consumption is lower than the standard (nh<nh*). Finally, in area C, housing expenses are lower than 30% of income while residual income is higher than *nh**. This is the group for whom housing is affordable according to both approaches.

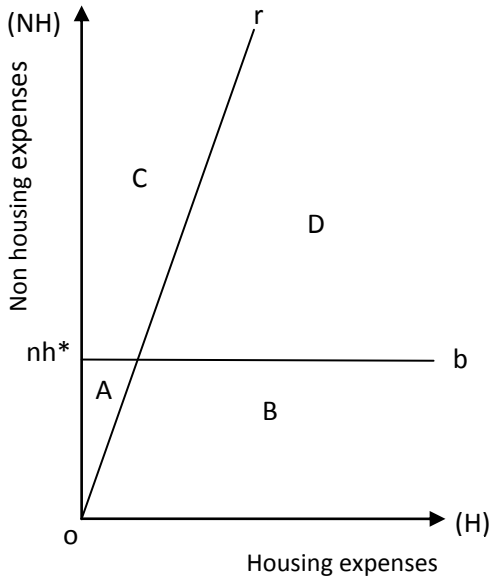

Figure 1.1 Affordability of housing: ratio and budget standard approach. *Source*: Gabriel et al (2005); axes reversed.

Households with a strong preference for housing may spend a lot of money on it (overconsume), which might cause them to fall below the residual income standard or the 30% norm. If these people lived in a smaller or less luxurious dwelling, housing expenses would be affordable. On the other hand, as already mentioned, households may live in an affordable way – not trespassing an affordability standard – while living in a house that is too small or lacks basic comfort. Figure 1.2 illustrates this logic for the budget standard approach. Non-housing consumption is considered to be insufficient below *nh**, whereas the standard for housing consumption is noted as *h** on the horizontal axis. The latter can be operationalized as a standard for comfort or housing size compared to family size (overcrowding). The group for whom housing is affordable (nh>nh*), while having sufficient housing consumption (h>h*) is represented by area 4. When housing is affordable, but housing consumption is below the standard (h<h*), the household will be in area 3. A part of this group is likely to have affordability problems, if they try to meet the housing standard (h*). Households that fall below the budget standard (nh<nh*), but still have a decent housing standard are symbolized by area 2. A certain part of this group might surpass the residual income standard by cutting their housing consumption, without falling below the housing standard. Finally, area 1 represents the situation in which both the residual income standard and housing standard are not met. Families in this situation have a lack of basic comfort or space and are also unable to achieve a basic level of other consumption.

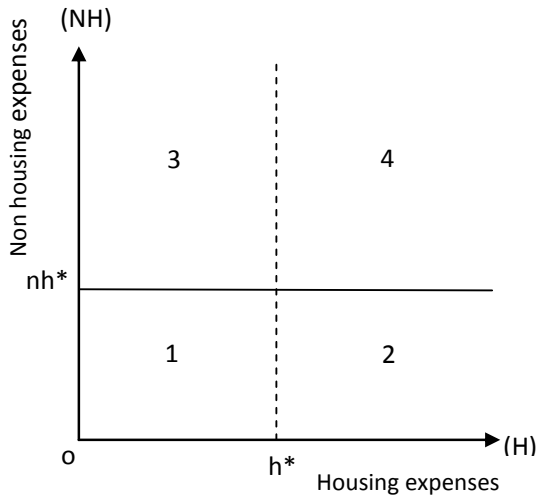

Figure 1.2 Housing and non-housing standards in the budget standard approach. *Source*: Hancock (1993).

During the past two decades, many researchers have expressed their preference for the residual income approach instead of the ratio approach.[1] The latter has been severely criticised. A first criticism is that the ratio – since it is a relative measure – is not related to the absolute level of consumption. It does not take into account what households have left to spend on other necessary goods and services. As a result, the same ratio does not have the same meaning for different income levels. When a percentage is applied as an affordability norm, it would mean that the lower the income, the less one needs to finance the necessary goods and services to participate in society, possibly not being able to pay the full price of housing consumption (Hancock, 1993; Freeman, Kiddle & Whitehead, 2000; Yip & Lau, 2002).

The latter comment highlights another often expressed criticism, namely that the ratio does not have a normative basic assumption. The applied standard (between 20% and 30%) is chosen arbitrarily or is coming from non-scientific studies of expenditure patterns at the end of the 19th and the beginning of the 20th century. The share that on average was spent on housing through the years became the norm for what people 'reasonably' can spend (Hancock, 1993; Stone, 2006a).

[1] Bramley (2011) however concludes that the ratio is probably the better single measure and the residual income measures are to be used in a supporting role. This statement needs to be regarded in the context of predicting self-reported payment problems of households. Also, the residual income measures that are tested are measures that are expressed relative to income, instead of absolute budgets, as are relevant in this study.

A third criticism is that the ratio – using only one standard – does not account for expenditure and income differences between different household types (Waite & Henman, 2005; Chaplin & Freeman, 1999). These drawbacks of the ratio call for cautiousness in applying the method. It does not mean however that the approach should be totally abandoned. For instance, it can be suitable to compare means or to analyze trends over time, without making an estimate about the relative size of the 'groups for whom housing is not affordable'.

The residual income approach overcomes the criticism on the ratio approach to a large extent. In contrast to the ratio, the residual income can be applied using meaningful affordability standards. Clearly, this is an exercise demanding certain normative assumptions, which are influenced by the society one lives in (Bourassa, 1996). The minimum budget approach originated in the UK in the 1940s. Already in 1942 Beveridge applied budget standards from a study of Rowntree to determine the minimum levels of 'national assistance'. In 1985 several prominent researchers of the York University carried out an extensive and influential study on the methods of minimum budgets, resulting in budget standards for six family types. In a following phase a difference was introduced between a 'low cost' and a 'modest' norm (Bradshaw, 1993).

The budget standard –if applied as amount or absolute budget, not relative to income– has several advantages compared to the ratio for analyzing affordability: it makes the link between housing and non-housing expenses explicit; it allows for more accurate differences across household types and it is more useful to study the position of low income households, as by definition it focuses on that group. In case of a 30% ratio also high income families might be classified as having an affordability problem. Waite & Henman (2005), who compared the ratio (with the 30% norm) with the budget approach for income support recipients in Australia, concluded that the 'housing need' estimates of the budget standard better fit with households 'poverty experience' than the results from the ratio approach.

The budget standard approach yet also is not perfect, as it does not unambiguously allow for determining whether a household has affordability problems just because their income is (very) low or because the income is too low to finance decent housing. Welfare will not only be determined by income, but also by other components, such as the extent of deprivation from goods and services considered normal in society (Bradshaw & Mayhew, 2010a, b). Furthermore, the budget standard approach is rather labour intensive in case the minimum budgets are not available from other research. In addition, it requires a number of normative judgements which cannot always count on an unanimous vote.

Another possibility for generating residual income standards, is using norms that governments apply in the field of poverty or housing policy. This approach is used in the UK, where the levels of the Income Support Scheme represent minimum budgets for a decent living, excluding the costs for housing. The housing costs are met by the 'Housing Benefits' or 'Local Housing Allowances' for eligible -poor- households (Freeman, Kiddle & Whitehead, 2000). In Flanders and the Netherlands however, the allowances of the social assistance

schemes are drawn to finance all costs (including (a minimum) for housing) and hence cannot be used as norms for residual income. To specify, in the Netherlands this concerns a minimum for housing, as the housing allowance scheme covers costs above the minimum (Kemp, 2007).

Despite the strong set of arguments in favour of the residual income approach, the ratio approach yet remains popular as a policy and practice rule of thumb. Partly this can be explained by familiarity with the method and disinterest in seeking better approaches, but also by the significantly greater methodological challenges entailed in the residual income approach based on budget standards. Sometimes the ratio approach is adopted to part of the criticism. According to Wood and Ong (2011) it will not be unusual that in cross-sectional studies the 30% benchmark will be applied to the lower 40% of the income distribution. These will be mostly Australian studies, as can be derived from Gabriel et al (2005).

1.2.5 Housing subsidies: definition

The term housing subsidy is widespread in housing literature but often vaguely defined. In this study we define housing subsidies as all government initiatives that lower the cost of the production or consumption of housing, in an implicit or explicit way (Haffner & Oxley, 1999). Housing subsidies can take many forms. According to Flood & Yates (1989) they can be divided into three categories: cash outlays, tax expenditure and rent regulation. The former category includes for instance housing allowances or grants for renovation. The tax expenditure category includes the mortgage tax relief and reductions for imputed rent or transaction tax. Tax advantages related to housing are not always developed within the framework of housing policy and often have initial goals that are not related to housing consumption (Wood, 1990). Rent regulation can appear in the form of income-dependent rent setting in social housing, as is the case in Flanders. But it can also be developed in the private market, by stipulating rules for rent increase or maximum rents (e.g. in the Netherlands).

In this study we only focus on first round effects and do not explore behavioral effects or the second round repercussions of subsidy systems on supply and demand. Ignoring possible second order effects is a clear limitation of our research.

Subject subsidies are aimed at the demand side of the housing market (e.g. housing allowances), whereas object subsidies are directed at the supply side (e.g. subsidization of social housing associations). The goals of housing subsidy systems may strongly differ. They may aim to enhance the affordability of housing, stimulate homeownership or improve the quality of the housing stock. Often the official policy goals of the instruments are not made very explicit. However, since all housing subsidies – by definition – affect the cost of housing, they therefore also have an impact on affordability (at least formally).

In this study, the housing subsidies that involve cash transfers to the households are called 'explicit subsidies'. The other subsidies or called 'implicit'. Explicit subsidies can be revealed by a cash flow analysis, which is carried out in Chapter 5. Here, residual income is calculated by subtracting gross or net housing expenses from disposable income. Implicit subsidies cannot be identified in a cash flow analysis. They lower housing expenses, but not explicitly. Examples of housing expenses that are lowered and in principle cannot be identified by the cash flow approach are the extent to which regulated rents are lower than market rents (where applicable) or the extent to which low-cost or subsidized mortgage interest rates are lower than market interest rates. One can think of other instruments here, for instance a lower transaction tax, a reduced rate of value added tax (VAT) or a reduced property tax. In the cash flow approach, these types of implicit subsidies will result in lower expenses - lower gross rent or lower housing expenses - but the extent to which expenses are lowered by each instrument cannot be shown with this approach.

In order to measure all housing subsidies (including the implicit ones), the user cost of housing is a useful concept. Subsidy levels of both explicit and implicit housing subsidies can be determined by comparing the actual housing user cost to a theoretical (benchmark) user cost that refers to a hypothetical situation in which the subsidy would not exist. The subsidy is the difference between the actual housing cost and this theoretical cost.

In the rental sector the choice of the theoretical (benchmark) costs is relatively straightforward. In both the private and social rented sector the benchmark cost is the market rent of the dwelling. The housing allowance is an explicit subsidy that lowers the market cost of housing. The subsidy in social housing is the implicit difference between the actual (subsidized) rent and the (hypothetical) market rent of the dwelling.

With respect to subsidized loans, the subsidy is resulting from the difference between the actual (subsided) and the market interest rate. With regard to the analysis of tax expenditure, different benchmarks are possible. Flood & Yates (1989), followed by Hancock & Munro (1992), introduced a hierarchy of benchmarks that could be regarded as progressively reducing distortions in the tax structure. A first possible benchmark is the 'commonly accepted' tax system. Each deviation from the general system that favors a specific group can be seen as a subsidy. For Belgium, we apply the definition of tax expenditure of the Belgian High Council of Finance (*Hoge Raad van Financiën*), who defines it as a 'revenues decrease due to a deviation from the general scheme of a tax measure in favor of a particular group taxpayers or particular economic, social or cultural activities, which can be replaced by a direct allowance' (Hoge Raad van Financiën, 2002). This Belgian definition is strongly in line with the one from the OECD, which argues that a tax expenditure 'is defined as a departure from the generally accepted tax structure which produces the favorable treatment of particular groups of taxpayers or groups of activities' (Wood, 1990).

A second benchmark takes 'tenure neutrality' as a point of departure. The tenure neutrality benchmark presumes that all owners need to be treated equally by the income tax system,

regardless whether the dwelling is rented out or occupied by the owner. Each deviation from this principle will be regarded as a subsidy.

Thirdly, 'tax neutrality' can be taken as a subsidy benchmark. Under tax neutrality investors would be treated indifferently – for the sake of tax treatment – between buying a dwelling or making another investment decision. It entails that each investment good is treated equally with regard to income tax. Since earnings on bonds or shares are included in income tax (minus the costs), it means that both net imputed rent and net capital gains (resulting from value increase) should be entered into income tax. Non-taxation of these components – or partial taxation – is hence regarded as a form of tax expenditure.

In this study we determine tax expenditure by using the first discussed benchmark: the commonly accepted tax system.

1.3 Housing policy in Flanders and the Netherlands

1.3.1 Development of housing policy until 1980

The industrialization of Belgium at the end of the 19th century and the origin of housing policy go hand in hand. The bad living conditions in the Belgian industrial cities and the related political and social threats provoked a number of social laws. These included a first Housing Act, which dates from 1889 and had a primary focus on the promotion and support of homeownership. The Housing Act was in line with the existing dominant political views on housing, which were connected with the social developments and the possible political implications of that time period. The industrialization was accompanied by strong urbanization, which included unhygienic living conditions, epidemics but also moral decline and possible social unrest. At that time, the majority of people lived in low-quality private rented dwellings. The promotion of homeownership can be seen as a strategy by the political elite (Catholic and Liberal parties) to keep families and children at a distance of these urban developments. Moreover, it was believed that ownership increased the discipline of the working force, because of the implied costs and responsibility. The promotion of commuting by creating a dense railway network is another policy measure that can be placed under the same strategy (Mougenot, 1988; De Decker, 2011). Also in the Netherlands, the emergence of housing policy followed the evolution of the welfare state. However, in contrast to other West-European countries the development of social – including housing - provisions in the Netherlands was modest before World War II (Boelhouwer, 2002).

In Belgium, the first social housing associations were founded at the beginning of the 20th century, whereas in 1919 a first umbrella organization in this field was created. After the Second World War many European countries were confronted with a housing shortage. Throughout Europe housing policy was regarded as a crucial element in reconstruction and economic policy. In line with the view of Keynes, investment in public housing was seen as

an instrument to stimulate the economy. Contrary to the focus on social housing in most European countries, the main policy option in Belgium was yet to stimulate the role of individual house-building, by providing building grants at an individual level. For example, the 'De Taeye' Act (1948) which lasted until 1993, offered households a grant for new construction or the purchase of dwellings (Deschamps, 1997).

In the post-war period (until 1980) the yearly reports of the minister of housing continuously mentioned three fundamental goals for Belgian housing policy: the encouragement of homeownership, the provision of housing at a modest price for poorer people and the elimination of unhealthy dwellings. Accordingly, the Belgian government invested in social housing after World War II, yet less than in owner-occupied housing. The Brunfaut Act from 1949 stimulated the construction of social housing in both the rental and owner-occupied sector (*sociale koopwoningen*). Between 1950 and 1980 there was a relatively large share of construction of social housing. Afterwards, until 1993, the number of new constructed social dwellings decreased. Explanations for this decline can be found in the far-reaching process of constitutional reform, the heavy loan-burden from the past and the economic crisis of the early eighties. From 1993 onwards, the 'Domus Flandria' program increased the building activity of social rented dwellings for a couple years, but the sector remained a residual one (Deschamps, 1997; Winters & De Decker, 2009). In 2005, about 6% of Flemish households lived in a social rented dwelling (Heylen et al, 2007).

In the Netherlands, the initial lag in social provisions was eradicated after World War II. Eventually, an elaborate welfare system was created, both in terms of government spending and level or accessibility of benefits. As a consequence of the massive housing shortage that resulted from the war but also due to a rapid population growth (bigger than in the rest of Europe) housing production was at a high level for a long time. In this post-war period the focus of the building programs was on volume whereas quality aspirations were of secondary importance. The need to build cheap dwellings at a fast pace led to an emphasis on the social rented sector. Moreover, the strong development of the welfare state facilitated the emergence of a broad social rented sector. In contrast to Belgium, where subsidies for owner-occupation were dominant, the Dutch government provided substantial object (bricks-and-mortar) subsidies for new construction in the social rented sector. In 1950, the object subsidy system was extended to the private rented sector, as equal treatment of social and private landlords was regarded as an important principle (Milligan, 2003). Yet, the main focus was on subsidizing construction in the social rented sector, which represented only 12% of the housing stock in 1947 but steadily grew to 41% in 1975 and remained at that level until 1990. In contrast, the share of market renting dropped form 60% in 1947 to 20% in 1975 and no more than 14% in 1990.

In 1974, when the 'Memorandum on rent and subsidy policy' was published, the Dutch government opted for the introduction of subject subsidies (housing allowances), additionally to object subsidies. The subsidies had the goal to promote good living conditions and to enhance the range of choice for all residents, also the low-income families. The introduction

of subject subsidies was seen as an additional way to address the housing needs of the low income groups (Boelhouwer, 2002). By this time, the issue of housing shortage was mostly resolved, and government attention was increasing for the income or affordability problem on the housing market. In origin, the housing allowance was supplementary and modest, but it has been extended for many years. In 1997 the Housing Allowances Act became the legal basis, setting the subsidy amounts according to income and rent level. Although some procedural differences exist, the housing allowance can be received by tenants in both the private and social rented market (Priemus & Kemp, 2004).

In contrast to Flanders, only in 1977 the promotion of homeownership became a central theme in Dutch housing policy. Nevertheless, due to the economic crisis the level of homeowners stopped increasing in 1978, followed by a collapse of the housing market at the beginning of the 1980s. The government reacted by increasing the production of rental dwellings, in order to support the housing market. Thus, the goal of homeownership was not really put into practice (Boelhouwer, 2002). Despite a longstanding favorable system of mortgage interest deduction (see further) and the emergence of construction subsidies, the level of owner-occupation only grew slowly in the Netherlands compared to other European countries. It was at a level of 28% after the Second World War and only reached 35% in 1971 and 43% in 1985. The main reasons for this slow increase were the policies of national and city governments to provide a high level of affordable social housing and the widespread acceptance among the Dutch households of renting. Buying a home in times of rising interest rates was also considered risky among the lower income groups, whereas rent regulation offered security for tenants (Milligan, 2003).

1.3.2 Developments since 1980

In Belgium, until 1980, housing policy was a federal issue. From the 1980s onwards, important aspects of housing policy became regional matters. In 2005, the year of our analysis, the largest part of housing policy was already regionally governed, although specific aspects, such as private rental legislation and mortgage tax relief, were still federal matters. The process of regionalizing housing policy took some time. Only in 1990 the Flemish Housing Association was officially established. In 1997, the Flemish Housing Code (*Vlaamse Wooncode*) became the legislative cornerstone of housing policy in Flanders. The central principle of this Code is the right to decent housing, in line with article 23 of the Belgian constitution. Four objectives for Flemish housing policy are put forward in article 4 of the Housing Code: the availability of housing, the quality of housing (including the quality of the environment), housing affordability and housing security. This article also mentions that Flemish housing policy should give special attention to the ‘most needy families and singles'.

Whereas in the postwar period the economic and social objectives for housing policy prevailed, new policy emphases rose, in line with the objectives of the Housing Code. For instance, attention to the environment, the quality of life, social mix and ecological

responsibility became important issues. But also the link between housing and other policy areas such as welfare, poverty, spatial planning and urban policy gained importance (Winters & De Decker, 2009). As a result, many policy measures at the Flemish level are targeted by means of income boundaries or dwelling features (e.g. building date, level of cadastral income). As housing became a regional policy matter, non-fiscal subsidies for homeowners were gradually abolished in Flanders, whereas the government budget for subsidy programs in social housing rose. In contrast, the support of tenants in the private rental market remained limited. Since the origin of housing policies, there is a remarkable absence of policies directed at the private rented market. The private rental legislation is marked by the contractual freedom and equality of the involved parties (Goossens, 1997). In contrast to many other European countries, the government does not intervene with regard to the rent level at the start of the contract. During the contract however, the rent can be raised according to the health index (and in case of renovation costs by the landlord).

In Flanders, social housing associations receive bricks-and-mortar subsidies from the Flemish government for the building of new dwellings, but also for investments in renovation and infrastructure. The main subsidy system for social rented dwelling consists of rent-free loans, granted by the Flemish Housing Corporation (*Vlaamse Maatschappij voor Sociaal Wonen - VMSW*) which receives a capital subsidy by the Flemish government. The social rented market is centrally regulated – at a Flemish level - by the Social Rental Decree (*Sociale Huurbesluit*), which defines the admission criteria (e.g. income boundaries), the income dependent-rent calculation and allocation rules. Until 1960 no income admission criteria were defined. Since then, income limits were introduced and often changed for allowing a bigger or more narrowly defined target group (De Decker, 2000). In 2005, according to survey data 12% of all households or 47% of tenants met the income criteria of social housing (Heylen et al, 2007).

In the Netherlands, the new housing memorandum of 1989 is regarded as a turning-point for housing policy, as the government withdrew its support in favor of the market. A more indirect style of governance developed, in which the government set the policy framework for the housing associations and local authorities (Hoekstra, 2003). The primary aim became the improvement of the functioning of the housing market, whereas promoting housing quality and affordability were classified as secondary goals. The budgets for object subsidies gradually decreased whereas emphasis was increasingly put on subject subsidies (Boelhouwer, 2002). In 1995 the housing associations became financially independent, by the 'grossing and balancing' operation. It meant that no more bricks-and-mortar subsidies were provided for the construction of new social rented houses. The government paid the future subsidy obligations towards the housing associations at once, which enhanced their assets substantially. Additionally, social housing associations can benefit from two instruments of government support. First, housing associations receive government support from the Guarantee Fund of Social Housing (WSW), which is a private fund backed by the central government. It guarantees loans of housing associations, which enables them to get below-

market interest rates. Second, housing associations are often offered building land by local authorities at a below market price. The equity situation and described subsidy mechanisms make it possible for housing associations to provide rental houses below the market price. The European Commission is yet critical towards the social housing sector in the Netherlands, which is presumed to be at odds with the free market that is envisaged by the European Union. Competition between private landlords and social housing associations is regarded unfair as the latter still receive forms of state support. Consequently, the Dutch government imposed the rule that at least 90% of the dwellings (with regulated rent) of housing associations should be allocated to the target group of low incomes. In 2012 this group was defined by an income limit of 34.229 euros per year (Elsinga et al, 2008; Hoekstra, 2009).

Also in the Netherlands, at the start of the 21st century, new policy goals got emphasized. As elsewhere in Europe, housing policy was being placed in a broader context. Co-ordination with other policy fields became important, for instance in the fight against poverty and its spatial dimension or for the rehabilitation of (urban) areas. Around that time, there was also a shift from a decentralized towards a performance-oriented approach to housing policy. For the social housing associations this resulted in a greater focus on evaluation of their performance, linked to their societal purposes, which are the provision of housing for people in vulnerable positions, the improvement of the quality of the urban residential environment and the promotion of housing in a green setting (Boelhouwer, 2002; Priemus, 2001).

1.3.3 Fiscal policy in the field of housing

Fiscal policy plays a central role in Belgian and Dutch housing policy. In Belgium, aspects of housing are taxed in various ways: in personal income tax (imputed rent), by VAT (on acquisition and maintenance), transaction tax (purchase of dwelling or land) and the advance levy on immovable properties (*onroerende voorheffing*), which can be seen as a form of property tax. Some fiscal subsidies are created to serve specific housing policy goals. For instance, since 1963 a system of tax reduction for mortgage savings exists, aiming to enhance the level of homeownership (Hoge Raad van Financiën, 2002). This system was adjusted in the beginning of 1989 and replaced by the deduction for the only and own dwelling in 2005 (*woonbonus*). In the latter system, both capital and interest payments are tax deductible up to the level of a yearly indexed maximum amount. Compared to the previous system of mortgage tax relief, the *woonbonus* resulted in a considerable increase of the fiscal advantage. Until 2005 the imputed rent (cadastral income) was taxed in personal income with the possibility of mortgage interest deduction. Further, an additional interest deduction was available. From 2005 onwards, the imputed rent of the 'own dwelling' (main residence) became free of taxes and the additional interest deduction was abolished.

In Flanders, reductions of the property tax and transaction tax exist for dwellings that are classified as 'modest'. These are dwellings for which the non-indexed cadastral income is lower than 750 euros. The reduced transaction tax involves a social concern (and goal of

vertical equity) but also intends to support urban renewal and the revitalization of deprived neighborhoods (Vlaams Parlement, 2012). Regarding VAT, a lower rate of 6% is applied to renovation costs (instead of a standard rate of 21%), with the aim of improving the quality of the housing stock.

Also in the Netherlands, housing is taxed in income tax (imputed rent), by VAT on acquisition or renovation, by transaction tax (existing dwellings and land) or by property tax (*Onroerendezaakbelasting*). Contrary to the situation in Flanders, no reductions exist for VAT on renovation costs or transaction tax. The latter is yet at a much lower level than in Flanders. The mortgage interest deduction in the Netherlands, which is deductible at 100%, has a longstanding history. With the introduction of the first modern income tax in 1915, an 'investment good approach' was applied to the taxation of the owner-occupied dwelling. This approach entailed that the imputed rent of the dwelling is taxed in income tax and that costs – such as interest payments – are tax deductible. With the tax reform of 2001, income was no longer taxed in one package but in three boxes. Contrary to what could be expected from (tenure neutrality) theory, the imputed income from the owner-occupied dwelling was put in box 1, together with income from work, where it is taxed at a progressive rate. Income from wealth – including second dwellings and dwellings owned by landlords – is since 2001 taxed in box 3, at a rate of 30%. Here, the taxable income is calculated as an imputed income from net capital (wealth minus debt) of 4% (Haffner, 2002).

The exceptional position of owner-occupied housing in Dutch taxation involves a favorable treatment that stimulates households to borrow money instead of saving. It is assumed to increase house prices and has a substantial budgetary impact (see further, section 1.5.1). The system is still into place, but undertook a couple of changes, by which the government intended to limit its cost. In 2001, the highest rate in progressive income tax was lowered from 62% to 50%, implying lower benefits for mortgage interest deduction. Also in 2001, the interest tax deductibility was limited to 30 years, and only granted for the main dwelling. Furthermore, in 2004 a measure was introduced that limits the new borrowing sum for homeowners that move to a next owner-occupied dwelling, to the difference between the price of the new house and the accumulated equity of the former dwelling (*bijleenregelin*g). Next, in 2005 imputed rent was limited to the level of paid mortgage interest, implying that no tax is levied on imputed rent once the mortgage is paid off. This measure was meant to stimulate the repayment of mortgage debt or the financing of home acquisition by equity (Haffner & de Vries, 2010). It is also regarded by the Dutch government as a subsidy to owner-occupiers, and thus will be addressed in more detail in this study.

1.3.4 Government budgets for housing policy

In this section we give a short overview of the government spending on housing policy, which can be seen as an indication of the government priorities related to housing. In Flanders, we distinguish between the budgets at regional and federal level. At the Flemish level, in 2011

the total government budget for the rental sector consisted of about 334 million euros, of which 289 million euros or 87% was directed at social tenants and 45 million or 13% at tenants in the private market. The Flemish budget for measures aimed at owner-occupation was 531 million euros, of which 315 million or 59% went to fiscal measures. Nevertheless, the government expenditure for housing was in 2011 still bigger at the federal level. About 1,4 billion euros was the total fiscal cost for the tax deduction for the only and own dwelling (*woonbonus*), the reduction for mortgage payments for capital (*bouwsparen*) and the additional interest deduction (*bijkomende interestaftrek*) (Heylen & Winters, 2012).

In the Netherlands, the government spending on housing allowances reached 2,4 billion euros in 2008 (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2010). With regard to the equity and regulation subsidies in the rented sector no official budgets are available, as they are implicit subsidies. In the owner-occupied sector, three measures are classified as 'tax expenditure' by the government. A first, the 'tax deduction for low or no home acquisition debt' (a*ftrek voor geen of geringe eigenwoningschuld*) has an estimated cost of 297 million euros in 2008 (Ministerie van Financiën, 2010). The second, the tax exemption in case of a capital insurance for the own dwelling (*Kapitaalverzekering Eigen Woning, KEW*) has a cost of 701 million euros in 2008 (Ministerie van Financiën, 2010). Concerning the third tax expenditure, the National Mortgage Guarantee (*Nationale Hypotheek Garantie*), no official budget is available, given its implicit nature. The cost – although not officially regarded as tax expenditure - of the mortgage interest deduction reached 10,1 billion euros in 2008. This figure is calculated by taxing the deductible interest amount minus the imputed rent (*eigenwoningforfait*) in box 1 of income tax (CBS, 2010).

1.4 Housing market segmentation by tenure and income

Figure 1.3 shows the distribution of tenure according to income groups (tertiles of equivalent income) in 2005 for Flanders and 2006 for the Netherlands. In accordance to the strong policy emphasis on owner-occupation, it is shown to be the dominant tenure in Flanders, with a market share of about 74%. More or less half of them are outrights owners. The share of homeowners grew from 42% in in 1947 to 60% in 1970 and 68% in 1991. Also in Wallonia the ownership rate rose continuously, from 43% in 1947 to 66% in 1991 (Deschamps, 1997). In the Netherlands the level of owner-occupation in 2006 is lower (56%) than in Flanders, while the vast majority of owner-occupiers has an outstanding mortgage. The market share of owner-occupation rose relatively slowly, from 28% in 1947 to 39% in 1975 and 48% in 1995 (Haffner et al, 2009).

Figure 1.3 points out that in both Flanders and the Netherlands, the level of homeowners rises with income. This increase appears to be steeper in the Netherlands. In Flanders the share of outrights homeowners yet decreases with income, due to the overrepresentation of pensioners – with a decreased income – in this group. In the Netherlands, the share of outright owners is more or less stable across the income tertiles.

Another major difference is the share of the social rented sector, which accounts for 35% in the Netherlands and only 6% in Flanders. As mentioned, after World War II this share was only 12% in the Netherlands. In accordance with its social aim, the share of social housing is larger in the lowest income tertile than in the middle and higher income group. These differences are greater in Flanders than in the Netherlands.

The market share of the private rented sector is considerably larger in Flanders (19%) than in the Netherlands (9%), where it has been decreasing since the Second World War. In both cases the share of private market renting is somewhat lower in the highest tertile, but the difference with the other income groups is limited (Heylen & Haffner, 2009).

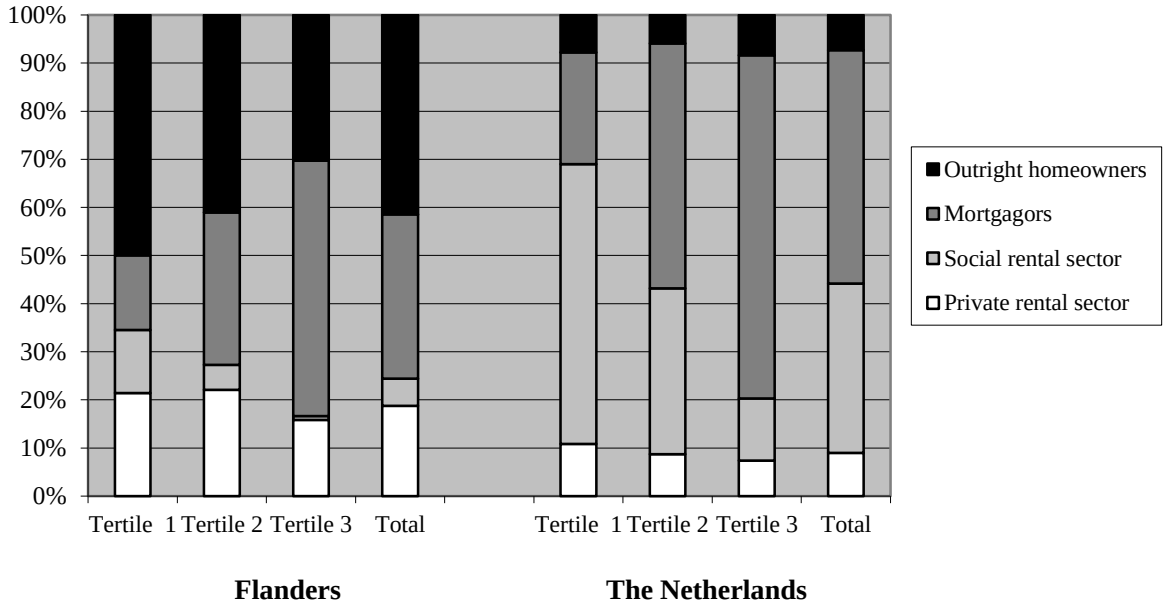

Figure 1.3 Housing tenure according to income groups (tertiles of equivalent income), Flanders and the Netherlands, 2005/2006. *Sources*: Flemish Housing Survey 2005; WoON 2006, TU Delft/OTB calculations (Heylen & Haffner, 2009).

Not only the income profile differs according to tenure, but also the quality of the dwelling stock. In both our cases, owner-occupied dwellings are on average larger and have more rooms than rental dwellings. In Flanders, the quality of the dwellings is in general considerably higher in the owner-occupied sector, according to several indicators. Moreover, the quality is found to be better in the social than in private rented sector. In the Netherlands, the private rented sector in general has an older housing stock than the social rented sector, a larger share of apartments and relatively more dwellings with one or two rooms (Heylen et al, 2007; Haffner et al, 2009).

As a final point, the segmentation by landlord type in private renting differs strongly between Flanders and the Netherlands. In Flanders, in 2005, about 92% of private rental dwellings was

let by a private individual landlord, compared to 44% in the Netherlands in 2009. In contrast, the share of organization landlords is only 5% in Flanders while it reaches 37% in the Netherlands (Heylen et al, 2007; Haffner, 2014).

1.5 Theoretical concepts applied to Flemish and Dutch housing policy

1.5.1 Current housing subsidies

As mentioned, in the year of our analysis (2005), the largest part of housing policy in Belgium was regionally governed although specific aspects, such as private rental legislation and mortgage tax relief, were still federal matters. According to our definition, several government measures on the federal (Belgian) and regional (Flemish) level can be regarded as housing subsidies in Flanders. Also in the Netherlands, several current policy measures can be classified as housing subsidies according to the definition. First we describe the measures for the rental sector, followed by the subsidies for the owner-occupied sector. More information about the entitlement rules and the mechanisms that determine the subsidy level can be found in attachment (Tables A1 & A2).

Rental sector

In Flanders, only families with an income below a certain threshold are eligible for *social housing*. In 2011 this threshold is set at 19.169 euros for a single person, whereas for lone parents and couples without children it is 28.753 euros, plus 1607 euros per child. In social housing the rent is lower than the market rent, and adjusted on a yearly basis to the taxable household income. If this income rises to a considerable high level, (an estimation of) the market rent will be charged. The subsidized rent is determined as $1/55^{th}$ of yearly taxable income, with a correction for family size and the quality of the dwelling. Further, it is limited by a maximum (the market rent) and a minimum. The social housing agencies have to finance the difference between the subsidized and market rent themselves. In order to have the necessary financial means they can benefit from interest-free loans granted by the Flemish Social Housing Company (VMSW). Therefore, the VMSW receives a capital subsidy from the Flemish government. Since there is an element of implicit subsidization when rents are set below the market rent, social housing in Flanders can be considered as an implicit housing subsidy (Kemp, 1997).

In the Netherlands, both the private and social rented sector are to a large extent ruled by rent regulation. As mentioned, about 95% of rents are regulated in 2006. Rent increases for sitting tenants are determined by a political decision, while rent levels for new contracts are based on the quality of the dwelling and to some extent of the environment. There is a maximum rent level per dwelling, determined by specified quality criteria of the national dwelling utility point system (*Woningwaarderingsstelsel*). In both rental tenures the actual rent is on average

lower than the maximum rent, but for social renting this difference is larger because of higher implicit subsidization by social than by private landlords (Ouwehand & Van Daalen, 2002).

Dutch social housing associations can benefit from lower-than market interest rates for loans via a guarantee fund and are offered land by local governments at a below market price. Due to these subsidy mechanisms and their considerable assets, extra subsidization is provided by social landlords in line with their societal purpose (WSW; see Haffner et al, 2009; Ouwehand & van Daalen, 2002). This subsidy can be split up in a 'equity subsidy' – which is the difference between the actual rent and the maximum rent according to rent control – and the 'regulation subsidy', which is the difference between the maximum rent and the theoretical market rent. These subsidies also apply to the private rented sector, as private landlords often determine a rent below the maximum rent or theoretical market rent (Romijn & Besseling, 2008; Haffner & Heylen, 2014).

The Flemish *housing allowance* is granted to a limited group. First, low income families that move from a bad or unsuitable to a good or suitable dwelling are targeted. The rent of the new dwelling is limited to a maximum, depending on the number of children. Secondly, low income families moving to a dwelling rented out by a rental agency are a target group (Winters et al, 2004). For these two groups, in order to be entitled, the taxable household income has to be lower than 15.830 euros in 2011, plus 1042 euros for each additional child. This subsidy system has existed since 1992 and was renewed in 2007. In the new system the allowance is regressive, relative to the income level, and granted for a maximum 9 years. In the old system, which existed from 1992 to 2007, the allowance was calculated in a different manner, was granted for maximum 15 years, and was not regressive. Also, the maximum rent of the new dwelling was lower in the old system. The Flemish Housing Survey revealed that only 2% of tenants were receiving housing allowance in 2005. The average housing allowance was 120 euros per month per beneficiary (Heylen et al, 2007).

In the Netherlands, as already mentioned, the housing allowance was introduced across the entire rental sector in 1975 with the primary purpose of making rental housing affordable. A second aim – the prevention of social segregation – was added in 1997. In 2006 the target group of housing allowances, based on income and maximum rent limits, covered 30% of Dutch households (Elsinga et al, 2007). One out of three tenants was receiving housing allowance in 2006 while the overall average was 148 euros per recipient per month (Ministerie van VROM, 2007). The amount of housing allowance is determined by the income, the rent (maximum of 653 euros per month in 2011) and the composition of the household. In 2011, yearly income had to be lower than 21.625 euros in order to be eligible for the housing allowance.

Owner-occupied sector

For Belgian owner-occupiers, several fiscal measures exist that lower the consumption or production cost of housing for specific groups and that can be regarded as deviations from the general tax scheme. Hence, they can be regarded as housing subsidies. Two of them are federal measures while the other two are regional matters.

Mortgage tax relief is the most generous and best known tax advantage for owner-occupiers. In Belgium, two systems are running in 2014; first, if the mortgage was taken out before 2005 the old system is applied, which has existed since 1989. In this system the fiscal advantage has three components: a regular interest deduction, an additional interest deduction and a capital repayment reduction. In the case of 'regular interest deduction' the conditions are not strict with almost all mortgagers being eligible. The amount eligible for deduction is limited to the value of the cadastral income (yearly imputed rent). This tax deduction is not considered as a deviation from the primary structure, and will not be considered as a housing subsidy. In case the yearly mortgage interest is higher than the cadastral income, households can benefit from the 'additional interest deduction'. In order to receive the additional interest relief, the mortgage duration should be a minimum ten years and must concern a newly built house (with VAT obligation). The amount that is deductible from taxable income is limited to fixed ceilings according to the number of children and is regressive (80% of total interest in the first five years to 10% in the twelfth year). Regarding the 'capital repayment reduction', which in practice operates as a tax deduction, the mortgage term is also at least ten years. Only a share of the capital repayment can be deducted from taxable income. This percentage is determined by the rate of a fixed ceiling to the total loan sum and varies according to number of children. If the household has no children, the fixed ceiling is 62.190 euros in 2005 (year of our analysis). The tax advantage is for both components calculated at the marginal tax rate. Since Belgian income tax is progressive, the benefit will be larger for higher income groups (De Meyer, 2007).

Secondly, since 2005, Belgian mortgagors are eligible for the housing bonus (*woonbonus*) which was introduced to replace the old mortgage relief system for new contracts. In contrast to the old system, the housing bonus is a fixed deduction of taxable income of both capital and interest payments. In our study however, the analysis is carried out for 2005, which entails that the distributive impact of the housing bonus will not be analyzed.

A second federal tax subsidy concerns VAT regulation in the case of renovation costs. Since 1986 a reduced VAT rate of 6% exists (instead of 21%) for renovation costs of dwellings of at least 15 years old. From 2000 onwards this rate also applies to the renovation of dwellings of at least five years old. This last measure was temporary but got renewed.

A first regional tax subsidy relates to the imputed rent tax for homeowners (a form of property tax). In case a dwelling is categorized as 'modest' the tax is reduced by 25%. A dwelling will be classified as modest if the non-indexed imputed rental value is lower than 745 euros per

year. Furthermore, a fixed reduction is applied for families with two or more children. Also regarding transaction (transfer) tax – a Flemish policy measure - a reduced rate exists for modest dwellings. Since 2002 the normal transfer tax rate is 10%, whereas it is 5% for the purchase of a modest dwelling. In the period before 2002, the normal rate was 12,5% and 6,5% for the reduced rate. In the Netherlands, the transaction tax rate was 6% of the purchase price until June 2011, when it was lowered to a rate of 2%. Since 2012, this lower rate has a permanent status. In contrast to Belgium, concerning transaction tax, in the Netherlands no fiscal advantages are developed.

In addition to the discussed tax subsidies, Flemish owner-occupiers may benefit from two types of renovation grants, two types of social lending (*VMSW* and *Vlaams Woningfonds*) or social owner-occupied dwellings (*sociale koopwoningen*) (see Appendix, Table A1). In our study these subsidy schemes will yet remain out of scope. The potential impact of these measures on the total distribution of housing benefits is expected to be small, since the incidence of application of these measures is relatively low (see Heylen & Winters, 2012; Heylen, 2013).

In the Netherlands, mortgage interest is fully deductible for thirty years in income tax against marginal tax rate. The benefit is marginally offset by a tax on imputed rent amounting to less than one percent of the market value of the property in unoccupied state (Haffner, 2002; Haffner & De Vries, 2009). In the Netherlands, mortgage tax relief is regarded as part of the primary tax structure and not as a deviation of it (Ministerie van Financiën, 2010). Since we use the primary tax structure as our subsidy benchmark, we do not define mortgage tax relief as a subsidy. In this study, we refer to this system as a 'fiscal advantage'.

In the Netherlands, two fiscal subsidies can be distinguished according to deviations from the primary tax structure. A first is the 'tax deduction for low or no home acquisition debt' (*aftrek voor geen of geringe eigenwoningschuld*) which was introduced in 2005. This measure entails that net imputed rent for owner-occupiers is not taxed in box 1 of income tax, when the deductible interest amount is lower than the value of imputed rent (*eigenwoningforfait*). A second tax subsidy is the tax exemption (of the capital savings) when mortgagers have a capital insurance for the own dwelling (*Kapitaalverzekering Eigen Woning, KEW*). When mortgagers are not entitled to this insurance, their capital value concerning the dwelling is taxed in box 3 of income tax. Finally, owner-occupiers in the Netherlands can have a mortgage with a National Mortgage Guarantee (*Nationale Hypotheek Garantie).* This guarantee is provided by the Guarantee funds of the Own Dwelling (*Waarborgfonds Eigen Woning, WEW*) and allows for a reduction of the mortgage interest rate since the lender (insurer) has got a guarantee of debt repayment by the WEW in case the borrower has to sell the dwelling with a residual debt (Haffner & Heylen, 2014).

In addition, in the Netherlands, several products are developed which aim to improve affordability and reduce the risk for homebuyers. These measures are aimed at homebuyers and offered by housing associations and municipalities. They involve a reduction of the

(market) house price (e.g. *koopgarant*) or a beneficial mortgage loan (e.g. *starterslening*), always linked to specified conditions (Oxley & Haffner, 2010; Dol et al, 2012). These measures will however not be analyzed in this study.

Mortgage tax relief is often linked to the policy goals of making housing more affordable or enhancing the level of homeownership. However, the impact of this fiscal advantage on the affordability of owner-occupation and – related to this – the presumed positive impact on the level of owner-occupiers is unclear in the case of Flanders and the Netherlands. According to literature, it could stimulate households to acquire a dwelling instead of renting, and increase the ownership rate. But only when price elasticity of supply is high. In that case, an introduction or rise of a fiscal advantage will hardly increase prices as supply will immediately follow price increases induced by rising demand. In such cases, the benefit will stay at the side of the owner-occupier. Nonetheless, if a fiscal advantage is introduced or raised within a context of low price elasticity of supply, the supply will only react to a limited extent. Thus, the demand increase will yield higher prices (capitalization-effect), implying that the impact of the fiscal advantage is partly neutralized (Goeyvaerts et al, 2014a). A recent international OECD-study classified Belgium and the Netherlands among the countries with the lowest price elasticity (below 0,4). It was argued that land-use regulation and taxation policy influence the responsiveness of supply (Caldera & Johansson, 2013). In addition, Goeyvaerts et al (2014a) estimated that the price elasticity of supply for Flanders is close to zero, based on the method of Green et al (2005). For the Netherlands, Vermeulen & Rouwendal (2007) estimated that supply is almost fully inelastic in the short run and has a rate of only 0,1% in the long run, meaning the supply increases by 0,1%, when prices increase by 1%. In addition, Brounen and Neuteboom (2008) found a capitalization rate of almost 75% for all mortgagors and even 96% for first time buyers.

Not only in scientific but also in policy debate the mortgage tax relief gets a lot of attention because of the presumed contribution to price rises and its budgetary impact, more so in the Netherlands than in Flanders, where the policy debate started only recently. In both Flanders and the Netherlands house prices rose sharply between 1990 and 2008, resulting from a combination of rising household incomes and falling interest rates. In the Netherlands, contrary to Flanders, homebuyers increasingly used endowment or interest-only mortgage types, which allowed for full interest deduction during the loan term. Full interest deduction is not possible in the Belgian income tax system, thus repayment mortgage types are popular in Belgium. In the Netherlands, the tax system encourages people to take out interest-only mortgages. In 2006, more than 44% of homeowners with one mortgage had one. In case of a combined mortgage this figure rises to 76%. The cost of the mortgage interest deduction rose to 2% of GDP in 2005 (Ministerie van VROM, 2007). Due to the high benefit of interest deduction for mortgagors, prices could rise without causing cash flow problems to them. Since price elasticity of supply is assumed to be low, the favorable tax treatment of owner-occupation is often regarded as one of the factors that caused the house prices to rise (Haffner & de Vries, 2009).

1.5.2 Explicit versus implicit subsidies

For Flanders, the explicit subsidy at stake in the rental market is the housing allowance. The advantage of social rent in Flemish social housing is regarded as an implicit subsidy. The social rent is lower than the market rent, but no direct allowance is received by the beneficiary. Another example of an implicit subsidy is the federal rent legislation applicable in Flanders (Elsinga et al., 2007). This legislation limits rent increases for sitting tenants in the private rental sector to inflation for the duration of the contract (maximum of nine years). However, for new contracts, there is no regulation in Belgium. Also in the Netherlands, the housing allowance is the only explicit subsidy in the rental market. In systems of rent regulation, the implicit subsidy is the difference between the theoretical market rent and the actual rent (Ouwehand & Van Daalen, 2002). Thus, in the Netherlands both the equity and the (rent) regulation subsidy are implicit.

In Flanders, the mortgage tax deduction is considered an explicit subsidy, as the involved benefit can be analyzed in a cash flow analysis without specifying a theoretical cost. Implicit subsidies in Flanders, that need a comparison to a hypothetical cost, are the lower VAT-rate for renovation costs, a lower property tax rate for families with children or the lower transaction tax rate for houses with a low cadastral income. In the Netherlands, the mortgage interest deduction is regarded as an explicit fiscal advantage, whereas the three other subsidies for owner-occupiers (discussed in section 1.5.1) are implicit.

While the effect of explicit subsidies can be revealed in a cash flow analyses using disposable income and housing expenses, the effects of the implicit subsidies generally will remain a 'black box' in this kind of analysis. One exception here is the difference in gross rent/user costs between social and private tenants in Flanders. Even though the expense components do not allow for separating out the effect of this type of subsidization, a comparison of gross rent levels in both rental sectors may give an indication of the extent of the bricks-and-mortar subsidization. This analysis will be possible for a housing market where the rents in the private rental sector are not strongly regulated, such as the Flemish one. The difference between the rent levels in both sectors can then be taken as an indication of bricks-and-mortar subsidization included in gross rents in the social sector. In practice such an exercise will be more useful for Flanders than for the Netherlands, as in Belgium there is no system of rent setting in the private market at the beginning of a (temporary) rent contract. Since only the rent for sitting tenants is regulated, comparison between private rents and social rents in Flanders may – although not fully indicative - be taken as a close indication of the extent of bricks-and-mortar subsidization. As in the Netherlands 95% of all rents are regulated (initial contract rent plus annual rent adjustments), a comparison of average gross rents between social and private renting will thus not be fruitful for measuring the bricks-and-mortar subsidization.

1.5.3 Housing system typology

The Netherlands is usually classified as having a *unitary (integrated) rental market*, since regulation allows competition (for tenants) between social housing associations and private landlords. However, Kemeny argues that certain barriers exist that prevent a completely level playing field. One barrier follows from the governmental guideline that social housing associations should target low income groups. Consequently, income limits function as eligibility criteria for social housing, leading to a larger share of low incomes than in private renting. Accordingly, a larger share of high income household is found in the private rented sector, where landlords are free to choose their tenants.

Since 1995 social housing associations are responsible for the rent setting. The government determines the maximum rent increase for the regulated market on a yearly basis. However, many housing associations do not apply the full rent increase, which also affects the possibilities for profit-providers to charge the maximum increase. Since approved social housing associations have a societal task (providing good housing for those who cannot find affordable dwellings) and a relatively level of solidity, rents are set below the ceiling, which involves an implicit subsidy (the discussed equity subsidy) (Kemeny et al, 2005). On average, actual rents in the social rented sector are 70% of the maximum rent, where it is 85% in the private rented sector (Companen, 2010). Thus, rent differences between the social and private sector are not very large. Since the social rented market was privatized at a relatively late stage, Kemeny argues that it has matured to a large extent. The government sees the total social rented sector as a revolving fund that can operate without subsidies from the government. As pointed out before, the market share of Dutch social housing is high and - despite a tendency for targeting lower income groups – accommodates broad segments of the housing market. Finally, in accordance with Kemeny's theory, the level of owner-occupation is relatively low.

Flanders on the contrary is regarded as having a dualist rental market. Social housing is – in contrast to the private rental sector – strongly regulated. For instance, admission criteria and (social) rent calculation are regulated by the Flemish government. The bricks-and-mortar subsidies that social housing associations receive from the government are substantial. The social rented sector is relatively small (6%) and due to strict income boundaries strongly targeted at the lower incomes (see Figure 1.3). Moreover, the rent level is strongly linked to the income level and is adjusted on a yearly basis. The (subsidized) rent in social housing is on average much lower than in the private rented sector. In 2005 the average gross rents were respectively 258 and 431 euros (Heylen & Haffner, 2009). Since the sector is small and demand is relatively high, waiting lists are long. Thus, it is fair to state that Flemish social housing functions as a safety net in line with the characteristics of a dualist rental system. Owner-occupation is the dominant tenure (74%), while segmentation is strong as the income differences between owner-occupation, social and private tenants are considerable.

Hoekstra (2009) provided empirical evidence for Kemeny's rental system typology, based on data for 2001 (European Community Household Panel) on 6 European countries. The Netherlands and Belgium (Flanders) were among the countries that he studied and that fitted within the typology as respectively representatives of the integrated and dualist rental systems. In the final chapter we will relate the outcomes of the analyses on affordability and distributional subsidy impact to the rental systems typology.

1.6 Structure of the study

In sum, our study will combine a problem and solution analysis with regard to the affordability of housing in Flanders and the Netherlands, by using data for 2005/2006. In the two parts, both a cash flow (short-term) and user cost (long-term) approach will be used. The first part of the study will focus on housing affordability as a societal problem. In the second part of the study, the focus is set on the policy instruments that affect the affordability of housing. We will explore the effectiveness of these policy measures from a perspective of vertical equity.

In Chapter 2, the results for the user costs for housing will be presented for Flanders and the Netherlands and compared to the short run affordability outcomes, according to income and tenure type. The added value of the user cost method in an affordability analysis will be discussed.

In Chapter 3, affordability figures for Flanders and the Netherlands will be presented for the two most common cash flow affordability indicators: the expenditure-to-income ratio and the residual income. We will calculate to what extent households fall beyond a specified affordability norm, according to different incomes groups, socio-economic status and tenure type. In addition, the strengths and shortcomings of the two indicators will be discussed.

In Chapter 4, housing subsidies in both the rental and owner-occupied sector are analyzed according to the user cost approach, whereas it is explored how these subsidies are distributed over income groups and tenure type. With regard to owner-occupiers, the subsidies not only include the well-known mortgage tax relief, but also the reduced VAT rate for renovation costs, the reduced transfer tax rate and the imputed rent tax reduction. With respect to the rental sector, social housing and housing allowances are the analyzed measures. In Chapter 4, the analysis is limited to Flanders. In the final chapter these results will be compared to Dutch figures from a recent study (Haffner & Heylen, 2014).

In Chapter 5, the cash flow approach is used for analyzing the distributional impact of the housing subsidy schemes, in terms of poverty and income inequality. Relative poverty and income inequality are calculated before and after housing expenses. By making a distinction between income after gross and net housing expenses, the effect of several housing subsidies

becomes clear. This type of analysis has, to our knowledge, not been carried out yet in literature.

In the concluding chapter, the results of the four chapters will be brought together and overall conclusions will be made. We will assess whether the housing subsidies reach the income groups and tenure for whom affordability is most problematic. Also a policy discussion will be presented. Finally, the strengths and limitations of the study will be mentioned whereas future research topics will be suggested.

Chapter 2

User costs and housing expenses. Towards a more comprehensive approach of affordability

Abstract
In this chapter a review is presented of the concept and different definitions of affordability. The concept of short-term affordability which is concerned with financial access to a dwelling and is based on cash flows, is combined with the concept of long-term affordability, which is about the costs of housing consumption. The use of these concepts is illustrated for Flanders and the Netherlands. They show that each concept has its own uses and that they are not interchangeable. However, both concepts indicate that in 2005 higher-income households, and especially homeowners (with a mortgage), were relatively better off than lower-income households, particularly renters. Homeowners' higher income levels on average more than compensate for their higher expenses in comparison to tenants; they also receive higher explicit subsidization and in times of rising prices they also receive expected returns on housing.

This chapter is based on the following article:

Haffner, M. & Heylen, K. (2011). User Costs and Housing Expenses. Towards a more Comprehensive Approach to Affordability. *Housing Studies, 26*(4), 593-614.

2.1 Introduction

Affordability analyses may be based on out-of-pocket expenses needed by households to finance their housing consumption or on user costs of the capital embodied in the dwelling, as discussed in Chapter 2. The literature about housing affordability yet traditionally focuses on one type of affordability concept. It is what Hancock (1993, p. 140) calls the 'short run costs' being the out-of-pocket cash flows or expenses that households make to finance the access to their home. Hancock (1993, p. 140) contrasts this concept with the 'long run ability' of households to pay the so-called user costs or price of housing consumption.

While the user cost concept is often used in economic modelling of the housing market, policy makers will be interested in an affordability concept that they can measure easily - the out-of-pocket cash flows. Instruments such as housing allowances often are based on a relationship (norms) between household income and these out-of-pocket cash flows. Changes in these variables are based on facts and not on expectations of house prices and of other variables necessary to calculate user costs. Consumers also often only take out-of-pocket cash flows into account. Typical here would be to forget about depreciation when calculating the costs of using a car in daily life.

However, affordability is not a one-dimensional concept, and a combination of more than one concept will give better insight into the affordability of housing for consumers. This chapter aims to show how an affordability analysis for a country or a region can be improved by a more comprehensive view on affordability: a combination of the short-term and the long-term concept, which to the authors' knowledge has not been promoted much by other researchers (but see Doms *et al.*, 2001; Quigley & Raphael, 2004). The analysis will show that both concepts are not interchangeable and that each concept of affordability has its own uses in analyzing the complex interplay of variables that influence affordability.

This will be illustrated with data for Flanders (Belgian region) and the Netherlands. The next section describes the methodology and data, showing how the two definitions were put into practice for Flanders and the Netherlands. The results of the calculations are presented in the third and fourth section. Conclusions follow in the final section.

2.2 Methodology and data

Definition of expenses

For the tenant net rent consists of the difference between gross rent (the rent set by the landlord) and housing allowances (see Table 2.1). Net housing expenses for homeowners consist of the difference of the loan financing expenses (interest and repayment) and income tax effects, such as the mortgage interest deduction. If accessibility of housing is the concern, first it is necessary to relate expenses to income. In relating housing expenses to income, we apply the residual income concept (Stone 2006a, 2006b) and do not make use of the ratio-

approach (Hulchanski, 1995). In Chapter 3 however, short run affordability is thoroughly analyzed by both concepts. As shown in Table 2.1, residual income here is calculated by subtracting net housing expenses from disposable income, for renters and owner-occupiers.

Table 2.1 Components of residual income in relation to the income of the tenant and the owner-occupier

Tenant		Owner-occupier	
Gross rent*		Gross housing expenses**	
-	Housing allowances	-	Fiscal effect income tax
=	Net rent	=	Net housing expenses
Disposable income		Disposable income	
-	Net rent	-	Net housing expenses
=	Residual income	=	Residual income

Notes: *Gross rent includes any costs that the landlord will include in the rent calculation, also for maintenance, property tax, etc. Gross rents could be set lower than market rents either by subsidy, by rent regulation or by taking a loss (social landlord), ** Gross housing expenses include the amounts for financing, property tax and other property owner expenses, such as home insurance fees, ground lease charges, property tax and owner's share of maintenance.

Definition of user costs

In its simplest form, user costs of capital consist of the real interest rate i earned on the value V of the investment. The real interest rate can be split into composing variables such as holding costs and expected value change (Quigley & Raphael, 2004; see also e.g. Hall and Jorgenson, 1967; Hendershott 1988; Himmelberg *et al.*, 2005; Poterba, 1984; Van Order and Villani, 1982):

$$UC = (i+h-p)V \qquad (1)$$

Where:

UC = user costs
i = real interest rate

h = holding costs (depreciation, property tax, etc.)
p = expected specific price change (inflation) of the dwelling
V = value of the dwelling

The expected value change of a dwelling is to be regarded as the so-called specific or pure price change. The specific price change is the inflationary component of the value change

(Garner & Verbrugge, 2007; Wigren, 1996). It is the price change of a dwelling with a constant-quality package of services. Price changes reflecting quality changes in the dwelling, such as improvements that would be regarded as new investment, are excluded from the price change in this way. The expected value change can be estimated either rationally or pragmatically via an extrapolation of recent developments (Diamond, 1980).

Next, income taxation will have an effect on the user costs because the returns to housing may be taxed. As, normally, real returns are not taxed in income tax but nominal returns, the interest rate and the specific price inflation in real terms will have to be explicitly corrected in the formula for inflation (respectively i+a and p+a; Quigley & Raphael, 2004).

$$UC = [(i+a)(1-t) + h(1-t) - (p+a)(1-t)]V \qquad (2)$$

where :
a = inflation
t = income tax rate

Solving the expression yields:

$$UC = (i+h-p)V - (i+h-p)tV \qquad (3)$$

The direction of the tax influence on user costs will depend on whether the real interest rate plus the holding costs are smaller or larger than the real expected specific price change. Note that general price inflation has canceled out of the equation when nominal interest is tax deductible while capital gain (or loss) is taxed (tax deductible).

When nominal capital gain is not taxed in income tax in equation (2), general price inflation will reduce the user costs, as well as the tax deductions for the real interest rate and the holding costs:

$$UC = (i+h-p)V - (i+a+h)tV \qquad (4)$$

Expenses versus user costs and government intervention

Based on the government intervention identified above, the rent allowances, the statement that rent expressed as expenses will be equal to the user costs for the rental service, needs to be specified. In theory user costs will in first instance be equal to gross rent (Table 2), which is the price set by the landlord, being the costs necessary to produce the housing services. In practice, there may be a difference between both amounts caused by, for example, rent regulation or supply subsidization. Furthermore, if there is demand subsidization, for example, rent allowances, the price set by the landlord (including supply subsidization) and

the price paid by the tenant will differ and the latter price should be called costs of occupation.

For owner-occupiers, expenses to finance the access to the dwelling and costs of consumption will differ regardless of the type of government intervention aimed at the owner of the dwelling because the composing variables differ. Both concepts take the tax treatment of funds invested in the owner-occupied dwelling into account, but differently. Expenses only take debt financing into account, while user costs also include the interest costs of equity financing. Only when there is 'other' demand subsidization than income tax subsidies, the costs paid for the occupation will differ from the user costs.

Generally, data on housing expenses are collected by means of housing surveys, as is the case for the data used here for Flanders and the Netherlands. Expenses are measured according to the definitions given in Table 2.1. User costs, however, are not readily available in surveys or statistics; thus assumptions have to be made. First, the case here will abstract from the possible differences between rent based on user costs and rent paid by tenants. It is assumed that both are equal. User costs (e.g. the costs of occupation) for tenants are assumed to be equal to net rent as defined in Table 2.1.

Contrary to renting, for owner-occupation the user cost calculations need further detail about assumptions which are contained in Appendix 2.1. The Appendix also contains a more technical description on how in two counts the user cost of homeownership may be underestimated in both 'countries'. On the one hand, house price data are used for a period where they were historically high; on the other hand, nominal rates of interest and specific price change are used. Given the possible underestimation, the user costs that are calculated can be considered the minimum amount.

As has been shown, measuring affordability requires definitions of price, income and quality standards. For the purposes of this contribution, however, the study did not design standards for quality or reasonableness. Technically, it is not possible to speak of measuring affordability, but of measuring housing expenses and costs. This chapter will thus show neither the quality being consumed nor whether households chose a certain level of expenses or costs voluntarily or by restriction (Hancock, 1993; Stone, 2006b; Whitehead, 1991).

Databases and selections of households

For the analysis of the short-term affordability, a group of recently moved households was selected because they had deal with the most recent situation on the housing market and the associated housing policy. The group of households that moved during a period of five years before the survey date were analyzed. For the Netherlands the period was 2001-2006; for Flanders, the period was 2000-2005. With regard to the analysis of the owner-occupied sector, the homeowners that have taken out a mortgage were selected. An affordability analysis in the

sense of financial accessibility is less relevant for the group without a mortgage, as their gross housing expenses only include property tax and homeowner's maintenance expenses.

The long-term affordability analysis is carried out for all the households that moved during a 10-year period before the survey date. Preferably, the study would have included all households. This was not possible because the Flemish Housing Survey 2005 does not include information on house prices for the households that moved before 1995 (for the sake of memory bias).

In order to not only present averages for households per tenure, but a distribution of affordability across households, the study used tertiles of equivalent income for the expenses and quintiles for costs. Equivalent income is calculated by correcting the disposable household income for the household composition. The OECD modified equivalence scale was applied.[1] Tertiles of equivalent income are calculated by dividing the income distribution, of the total population or a subpopulation (e.g. the renters), in three equal parts. The 33% lowest-income households form the first tertile, whereas the third tertile consists of the 33% of households with the highest equivalent incomes. Similarly, five quintiles of equivalent income are calculated for the user cost analyses. The lowest quintile represents the 20% lowest equivalent incomes.

2.3 Expenses: Flanders and the Netherlands compared

Table 2.2 shows the results of the short-term affordability calculations for the different housing market sectors in Flanders and the Netherlands for households who had recently moved (2005/2006). In both countries the differences in disposable income between homeowners with a mortgage and tenants compensated for the higher net housing expenses for homeowners compared to tenants. In Flanders the average residual income per month was more than 1200 euros higher in the mortgaged owner-occupied sector than in the rental sector (2005); in the Netherlands the difference in residual income between both tenures on average amounted to 1100 euros per month (1 January 2006). As a result the difference in short-term affordability between the rental sub-sectors and mortgaged homeownership is also greater in Flanders than in the Netherlands.

For the rental sub-sectors a similar description can be given of the proportions as for the difference between owner-occupation and renting. Gross social rent is much lower than gross private rent, more so in Flanders than the Netherlands. Given that social rented dwellings on average do not have fewer rooms than private rented dwellings (Heylen & Haffner, 2009), the implicit bricks-and-mortar subsidies involved in combination with the differential rent setting in the Flemish social rented sector must be substantial. Furthermore, on average the income differences between both rental subsectors are similar in both 'countries' (452 versus 394 euros per month), the income being lower for social than for private tenants. As a result of the higher incomes and the higher rents, the average residual income is considerably higher in the

private than in the social rented sector. It is clear from these numbers that on average in both countries the social rental sector caters for the lowest-income households.

On average, the amounts of explicit government intervention are considerably lower in Flanders than in the Netherlands. In Flanders the housing allowances on average have a small effect (whereas the implicit subsidization that shows in the social rents has most effect), while in the Netherlands the rents charged become clearly much lower ('more social') as a result of housing allowances. The fiscal effect for homeowners is also higher in the Netherlands than in Flanders (308 versus 84 euros). However, this greater government intervention in the Netherlands is compensated by higher gross housing expenses (1074 versus 830 euros), which results in a similar average amount of net housing expenses in both countries. This effect of demand subsidization translating into estimated 10-30% higher house prices (Conijn, 2008) in the Netherlands, where house prices averaged 223.000 euros in 2005 in comparison to 164.000 euros[2] in Flanders, must be ascribed to the relatively inelastic supply. Another part of the explanation of the difference in gross expenses between both countries may be the higher loan-to-value ratio in the Netherlands for first-time buyers (101%) than in Flanders (80%) though the loan term differences of 30 versus 20 years will work in the opposite direction (ECB, 2009).

Table 2.2 Components of residual income according to tenure for recent movers, average amounts in euros per month, Flanders/the Netherlands, 2005/2006

	Gross rent/ gross housing expenses	Housing allowance/ fiscal effect	Net rent/ net housing expenses	Disposable Income	Residual income
Flanders					
Rented sector	423	-2	421	1814	1393
Private rented sector	*453*	*-1*	*452*	*1884*	*1432*
Social rented sector	*258*	*-2*	*256*	*1433*	*1177*
Owner-occupied sector*	830	-84	746	3349	2603
The Netherlands					
Rented sector	421	-47	374	1631	1257
Private rented sector	*501*	*-19*	*482*	*1927*	*1445*
Social rented sector	*394*	*-56*	*338*	*1533*	*1195*
Owner-occupied sector*	1074	-308	766	3127	2361

Notes: *owner-occupiers with a mortgage. *Sources*: Flemish Housing Survey 2005; WoON 2006, TU Delft/OTB calculations.

Table 2.3 shows the housing expenses and residual income according to tenure and income groups (tertiles) for Flanders. The results account for household type differences between the different tenures, since the tertiles are based on disposable income corrected for household composition (equivalent income). The gross rent for tenants and the gross housing expenses

for owners rise with income tertile. However, the short-term affordability turns out relatively worse for tenants than for owner-occupiers with a mortgage as a result of the income differences between both tenures. The difference in residual income corrected for household composition is about a factor two between both tenures, implying that homeownership with a mortgage is about twice as affordable as renting.

In contrast to the Flemish situation, the Dutch differences in income between owning and renting are less than a factor two in all tertiles (Table 2.4). However, as in Flanders, affordability for mortgagors is much better than for tenants for the same reason as in Flanders. On average, the lower incomes of tenants determine their relatively worse short-term affordability, even though their net rents, including implicit and explicit subsidization, on average are lower than the net housing expenses of homeowners.

Even though homeowners' short-term affordability is better in both countries than that of tenants, government support as determined by the partial analysis here of explicit subsidization is in favour of owner-occupiers with a mortgage, who on average in all tertiles are deducting larger amounts of income tax than tenants receiving housing allowances. The effect of targeting is very limited. It is even absent in the Netherlands where the average fiscal effect for owner-occupiers increases between the second and third tertile, showing the effect of the unlimited mortgage interest deduction based on high house prices and high loan-to-value ratios. The effect of targeting is limited to some extent in Flanders because the average effect in the third tertile is not significantly higher than in the second, even though gross housing expenses are, on average, more than 240 euros per month higher in the third than in the second tertile. This is the result of the built-in upper-limits of the tax system. Nonetheless, subsidy targeting in the rental sector is much stronger, especially through the use of subsidized or social rents. In the Netherlands, targeting is also much stronger for tenants than for owner-occupiers, in this case as a result of housing allowances.

Table 2.3 Components of residual income according to tenure and tertiles of equivalent income for recent movers**,** average amounts in euros per month, Flanders, 2005

Gross rent/ gross housing expenses		Housing allowance/ fiscal effect	Net rent/ net housing expenses	Disposable Income	Residual income
Rented sector, equivalent disposable income tertiles					
1	358	-4	354	1125	771
2	418	-1	417	1645	1237
3	488	0	488	2617	2129
Owner-occupied sector with a mortgage, equivalent disposable income tertiles					
1	699	-60	639	2325	1686
2	769	-92	677	3111	2434
3	1011	-98	913	4540	3627

Source: Flemish Housing Survey 2005

Table 2.4 Components of residual income according to tenure and tertiles of equivalent income for recent movers**,** average amounts in euros per month, the Netherlands, 2006

Gross rent/ gross housing expenses		Housing allowance*/ fiscal effect	Net rent/ net housing expenses	Disposable Income	Residual income
Rented sector, equivalent disposable income tertiles					
1	370	-91	279	974	695
2	407	-44	362	1518	1156
3	485	-5	480	2401	1921
Owner-occupied sector with a mortgage, equivalent disposable income tertiles					
1	901	-191	710	2129	1419
2	1024	-282	742	2862	2120
3	1297	-450	847	4390	3543

Notes: *Housing allowance received is based on income in reference period. That income may not be equal to the income measured in the survey. Source: WoON 2006, TU Delft/OTB calculations

Government intervention not only affects the financial accessibility to housing of households, but also the income distribution of households. When taking the step from disposable to residual income, the basic result is that expenses for housing increase the income inequality in both tenures and in both countries, as measured by the ratio of the average disposable (or residual) income of the third tertile to the same average of the first tertile. The increase in the ratio indicates that housing is relatively less affordable for low-income than for high-income households.

On average, in both countries inequality is higher in the rental sector before and after housing costs, and also increases more in the rental sector than in the owner-occupied sector when taking the step from disposable to residual income. This indicates that housing is relatively less affordable in the rental sector than in owner-occupation with a mortgage.

The targeted housing allowances in the Netherlands contribute to a smaller increase in inequality (from 2,5 to 2,8) than in Flanders (from 2,3 to 2,8), which implies more effective demand side subsidization for tenants in the former than in the latter country. For homeownership it is the other way around. Tax subsidization for mortgagors contributes to a stronger income inequality rise in the Netherlands (from 2,1 to 2,5) than in Flanders (from 2,0 to 2,2), implying relatively less effective subsidization of the taxpayers in the Netherlands. Regardless of the size of the effects, in both countries, subsidization makes owner-occupation more attractive, the higher the income.

2.4 User costs: Flanders and the Netherlands compared

Table 2.5 presents the yearly user costs of housing in Flanders and the Netherlands, for households who moved during the last ten years (before the year of the survey). The results are shown according to tenure and equivalent disposable income. Figure 2.1 and 2.2 show the yearly user costs for owner-occupiers per income quintile divided according to cost (positive) and revenue (negative) components, for both countries.

When the 'expected price change' component is excluded, the yearly user costs for owner-occupation are on average slightly higher in the Netherlands (12.290 euros) than in Flanders (12.066 euros). This indicates that the estimate specific price rise in Flanders was higher than in the Netherlands. This explains why the user costs of owner-occupation in Flanders turn out to be lower than in the Netherlands.

In fact, when all user cost components are included and corrected for government intervention on the demand side, the user costs of owner-occupation in 2005 turn out to be a return: revenue components exceed cost components. On average, owner-occupation yielded a yearly profit of 7637 euros for Flanders and 4128 euros for the Netherlands. The user costs turned 'negative' for 2005 because of the strong influence of the expected price change, which on average was higher in Flanders (19.703 euros) than in the Netherlands (16.418 euros).

Table 2.5 User costs of housing according to tenure status and income, for households that moved during 10 recent years**,** average amounts in euros per year, Flanders/the Netherlands, 2005/2006

	Total	Quintiles of equivalent disposable income				
		1	2	3	4	5
Flanders						
Owner-occupation, incl. expected value change	-7637	-8863	-9819	-9036	-9469	-1103
Owner-occupation, excl. expected value change	12.066	9914	11.025	12.630	11.597	15.190
Rented sector	4936	3705	4478	5164	5133	6064
Private rented sector	*5328*	*4438*	*5217*	*5184*	*5475*	*6187*
Social rented sector	*2998*	-	-	-	-	-
The Netherlands						
Owner-occupation, incl. expected value change	-4128	-3093	-3292	-3431	-3504	-5660
Owner-occupation, excl. expected value change	12.290	13.315	10.962	10.968	11.373	14.293
Rented sector	4437	3387	4325	4889	5504	7107
Private rented sector	*5653*	*4148*	*4843*	*5360*	*6382*	*8602*
Social rented sector	*4092*	*3251*	*4216*	*4735*	*5094*	*5519*

Sources: Flemish Housing Survey 2005; Stadim 2008; WoON 2006, TU Delft/OTB calculations

In Flanders, the expected price rises between the first and the third income quintile whereas it is remarkably low in the fifth quintile (Figure 2.1). This finding can be explained by the way household income is related to the expected value change of the dwelling, which happens in two opposite ways. On the one hand, higher income households on average occupy dwellings of higher value than lower income households, which contributes to a greater value change. On the other hand, the average yearly price-rise of large dwellings in the five-year period (1,1%) was far less than the price-rise of medium-size dwellings (10,7%) or apartments (9,3%). Logically, high income households more often own relatively large dwellings than households with a lower income. As a consequence, the expected price change in the fifth income quintile is below average, resulting in a significantly lower user 'gain' in the fifth than in the other quintiles.

In addition for the Netherlands, the expected value change rises with equivalent income, with the exception of the first quintile (Figure 2.1). The higher amount of estimated expected value change in this quintile than in quintiles 2 to 4 must either be an effect of the result of geographic differences (the dwellings are in provinces with higher value changes) or of the higher value of the dwelling owned. The latter argument is supported with the higher interest

costs calculated for owner's equity in the first quintile compared to the other quintiles. Presumably, older, retired homeowners with a small or no mortgage and a relatively lower income cause this effect. This group of households is over-consuming housing services.

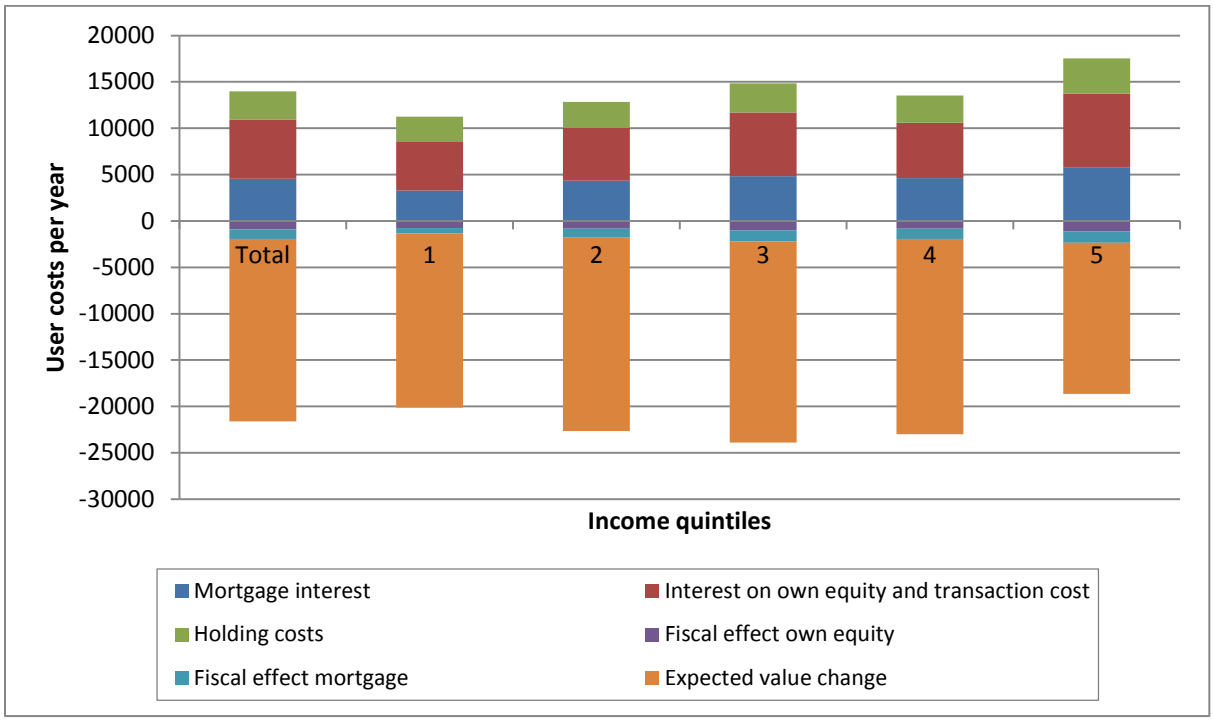

Figure 2.1 Composition of user costs (euros) of Flemish owner-occupiers according to quintile of equivalent income, 2005. *Source*: Flemish Housing Survey (2005).

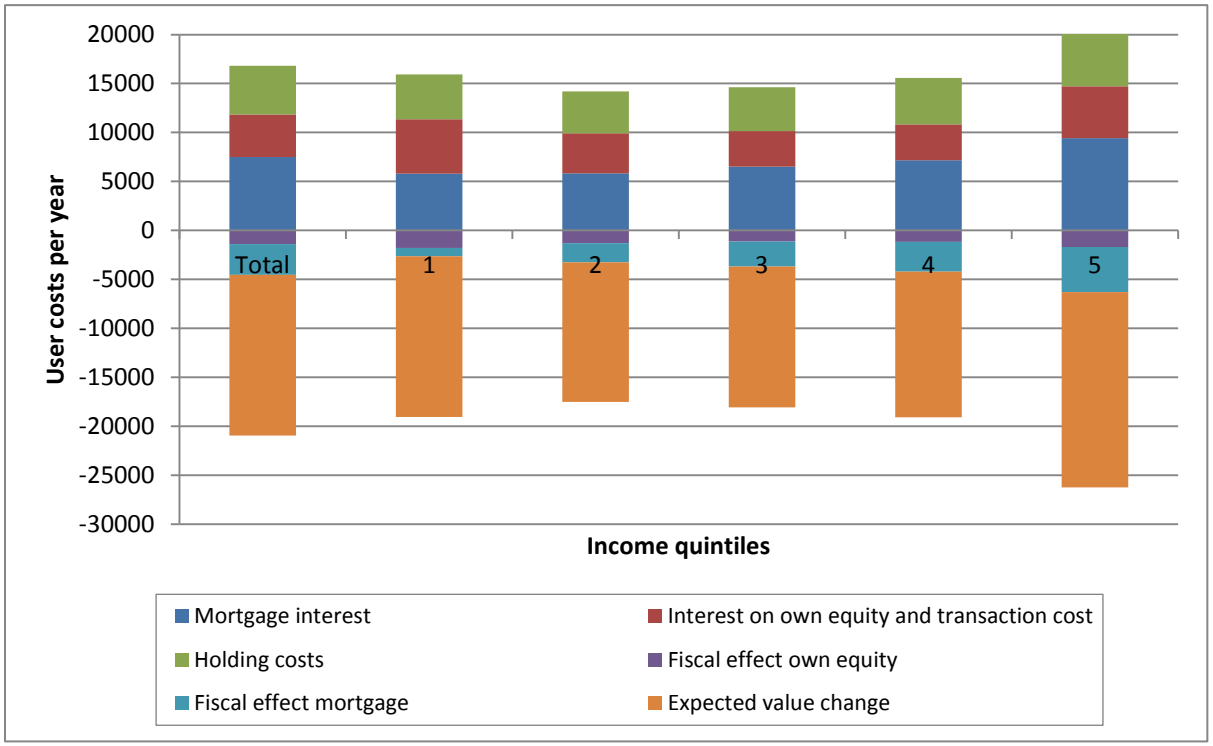

Figure 2.2 Composition of annual user costs (euros) of Dutch owner-occupiers according to quintile of equivalent income, 2006. *Source*: WoON (2006), TU Delft/OTB calculations. *Source*: WoON (2006), TU Delft/OTB calculations.

Figures 2.1 and 2.2 show that the interest costs on debt and on owner's equity are the most important components of the user cost after price effects. On average, the Dutch mortgage interest costs are higher than the Flemish ones, which will be partly due to higher house prices in the Netherlands. In addition, the ratio of the amount of mortgage interest to the amount of interest on owner's equity is higher in the Netherlands than in Flanders, which indicates that the loan-to-value ratio on average is higher in the Netherlands when mortgage interest rates are comparable. This finding clarifies that the equal housing expenses that are on average paid by the Flemish and Dutch mortgagors are made for a relatively larger part of the dwelling value in the Netherlands than in Flanders. As a consequence, when the whole dwelling value is considered, costs (without the effect of the specific price increase) are on average higher in Flanders than in the Netherlands. Purchasing a dwelling, Flemish households tend to bring in more own equity, which lowers the mortgages payments but which has to be accounted for when housing 'affordability' is examined in the long-term.

Returning to Figures 2.1 and 2, it is found that the tax relief for mortgage debt and owner's equity in most quintiles are the lowest amounts in both countries of all the components that make up user cost, but much more so in Flanders than the Netherlands. The first reason for the difference is the smaller fiscal effect on the interest on owner's equity because of the lower proportional tax rate of 15% in Flanders than the Dutch tax rate of 30%. Second, as loan-to-value ratios in the Netherlands tend to be higher than in Flanders, Dutch tax rates are

progressive and the whole amount of mortgage interest is deductible, the mortgage interest deduction in the Netherlands is bigger than in Flanders and increases with income. As a result of the progressive tax rate, the share of the amount of interest deducted in the amount of mortgage interest increases with income, while in Flanders the share of the amount of tax deduction to amount of mortgage interest decreases with income because of some built-in upper limits for tax relief related to the value of the dwelling.

Finally, Figures 2.1 and 2.2 show holding or management costs. On average, in the Netherlands the share of the management costs is more than 40% of the user costs excluding the estimated expected price change of the dwelling. In Flanders, this share is 25% because it excludes costs of the land lease and the building insurance. Otherwise these costs consist of maintenance costs, property tax and depreciation of the dwelling in both countries.

According to theory, the user costs of renting would be equal to the user costs of owner-occupation. However, that was not the case in 2005: while owner-occupiers where in fact earning a return on living in their own dwelling, tenants were paying rent (Table 2.5). Therefore, in 2005 owner-occupation was thus more affordable in the long-term than renting. One reason for this outcome is the regulation of rents. A second reason is about quality differences between the tenures. On average, in both countries owner-occupied dwellings are of better quality than rental dwellings (Elsinga et al, 2007). Another reason is methodological: the *ex post* calculation of house prices over a relatively short period (see above).

On average, social renting was more affordable in the long-term than private renting in 2005 (Table 2.5). The combination of differential rents, bricks-and-mortar subsidies and housing allowances in the social sector resulted in a much lower average rent in Flanders (2998 euros) than in the Netherlands (4092 euros). Although the annual user costs for the private tenant were on average also lower in Flanders (5328 euros) than in the Netherlands (5653 euros) due to the much larger private rental sector, the user costs for renting were higher in Flanders than in the Netherlands. In the Netherlands they increase with income more linearly than in Flanders, probably as a result of the more widely applied means-tested housing allowance in the Netherlands.

2.5 Conclusions

This chapter has argued that two concepts of affordability should be used together in order to outline a more comprehensive picture of affordability. The first concept is short-term affordability, which is concerned with financial access to a dwelling based on out-of-pocket expenses; the second is long-term affordability, which is about the costs attributed to housing consumption. The analyses here of the most recent Flemish and Dutch available data on affordability show that each concept has its own uses, that they are not interchangeable and that they complement each other. Together they provide information on the financial

accessibility of housing in the short term and the capability to pay for housing in the long-term.

The analyses show that in 2005 homeowners (with a mortgage) ‘cashed in’ twice on affordability. In the short-term this conclusion can be explained by the fact that the share of income spent on necessary goods and services will decrease as income rises. As homeowners on average have higher incomes, homeowners with a mortgage are relatively better off than tenants. The differences between both tenures are bigger in Flanders than in the Netherlands. This effect mainly occurs because of the greater differences in disposable income between the housing market sectors in Flanders than in the Netherlands. These income differences are related to the policy-set income boundaries in social housing and the different shares of the sectors in the housing market in Flanders and the Netherlands.

In the long-term, the difference between homeowners and tenants results from the yearly expected value gain of the dwelling surpassing the other annual cost components. Owner-occupation yields a profit regardless of the income level under the assumptions that were made. Assuming this profit as a result of the expected value gain also is accruing to landlords, rents could be lowered to a certain required, market, return. As they had not actually been lowered, tenants were paying rent, while homeowners had negative housing costs, resulting in a yield from living in the own dwelling in 2005/2006. This shows that a dwelling is thus more than just a way to satisfy consumption in the form of provision of a roof above the head.

The expected price rise or decrease is an important aspect of housing affordability that is being overlooked, when expenses are the guiding principle for housing affordability policies. It is an expression of the risk that the investor runs when investing in housing. Housing equity is also potential income that is often found to create a so-called wealth effect, giving an incentive to increase (or decrease) consumption (Case & Quigley, 2008). However, the analyses here show that the expected specific price change is not linearly linked to equivalent household income. Rather, it redistributes housing equity in the direction of more for the Dutch ‘poor’ and less for the Flemish ‘rich’. This comes about as the expected price change for the Dutch ‘poor’ is more than average and for the Flemish rich is less than average. The size of the dwelling is the intermediating variable between price change and income. In the case of the Netherlands, pensioners with repaid mortgage loans and relative expensive homes (over-consumption) are overrepresented in the first income quintile which distorts the linear relationship between equivalent income and the expected value change. In Flanders, the expected price rise is higher for medium-sized dwellings and apartments than for large dwellings, resulting in a lower than expected value change for the highest income quintile. As a result of the importance of the value change, several other aspect such as activity status or differentiated value change rates have an impact on housing affordability in the long run.

Thus, in the case of long-term affordability the intermediary variable between household income and affordability is the value of the dwelling, making the linearity of this relationship not a necessity. In the short-term that link, as is shown here, is expected to be more linear than

in the long-term. Cash flows usually are linked to income, especially by borrowing constraints (loan-to-income requirements) for mortgage loans, simply by the fact that a household also will have to pay for non-housing consumption, and by requirements for income subsidies for occupiers (here rent allowances).

In theory, the expected price adjustments in the long-term would play a role in both tenures and the user cost in both tenures would be equal to each other. The fact that this did not turn out to be the case in the calculations here implies that homeowners have high expectations about future capital gains, which is an effect that comes about because of using *ex post* house price data for a relatively short period of time. Even if a longer period would be used, differences between both tenures in user costs will remain because of rent regulation which keeps rents below market rents and also because of quality differences between both tenures.

On explicit subsidies (here defined as lowering expenses or costs) to make housing more affordable, the analysis points out that housing allowances have the same impact on costs as on expenses and are targeted at low-income households in both countries. For homeownership the share of the tax effect in costs and expenses is different, much lower as a cost component than as an expense component. In the short term this effect is only visible in the Netherlands, while in Flanders the capping of the tax deduction for high-income groups is much clearer in the cost concept than in the expense concept, probably because the analysis distinguishes between five income groups instead of three. Furthermore, the short-term concept shows that the average fiscal effect is about three times higher in the Netherlands than in Flanders. Nevertheless, the net housing expenses for homeowners with a mortgage are at approximately the same level in both countries. The long-term analysis complements this finding in that it points out that the loan-to-value rates for homeowners are on average higher in the Netherlands because the about equal housing expenses are made for a larger share of the dwelling value than in Flanders. This shows that when housing policy is only based on the more popular, short-term analyses, policy adjustments might be ineffective. What is not visible in this approach is the effect of policy on dwelling value. Any subsidization of particular people so that they are able to afford decent housing will in the end benefit the owner of the dwelling, because subsidizing demand will increase the demand for housing services.

Acknowledgements

An earlier version of this text was presented at the Dublin ENHR-conference in 2008. We would like thank the participants of the Housing Finance working group for the discussion on this paper. Thanks are also due to the referees and the Editors for their helpful guidance in writing this text.

Endnotes:

[1] The disposable income is divided by the sum of the weights for the household members in order to make it 'equivalent' and comparable between different household types. The first adult gets a weight of 1, each additional adult in the household a weight of 0,5 and each child with a maximum age of 15 a weight of 0,3.

[2] In the Netherlands the average house price almost reached 223.000 euros in 2005; the range covered 165.000 euros for apartments to 370.000 euros for a detached single family dwelling (Kadaster, http://www.kadaster.nl). In Flanders, the average house price of 162.400 euros in 2005 is lower than in the Netherlands. The price of small and middle-large dwellings reached 139.600 euros in 2005. Also the price of apartments reached 147.500 euros in 2005; for large dwellings 272.300 euros (Stadim, 2006). We should keep in mind that the geographical differences regarding price increases in both Flanders and the Netherlands are substantial.

Chapter 3

A ratio or budget benchmark for comparing affordability across countries?

Abstract
In this chapter, the methodological strengths and weaknesses of two common housing affordability indicators - the expenditure-to-income ratio and the residual income - are discussed, using data for the Belgian region of Flanders and the Netherlands. Affordability standards are used in order to distinguish the group facing affordability problems. In case of residual income, we use minimum budget standards – excluding housing - that allow for decent participation in society. For the expenditure-to-income ratio, we apply the internationally frequently used 30% benchmark. Our comparison of the two methods results in a preference for the budget approach. Consequently, we explore the possibilities of applying the budget approach in a comparative context. We conclude by making recommendations for future research.

This chapter is based on the following article:

Heylen, K. & Haffner, M. (2013). A budget approach for comparing housing affordability. *Journal of Housing and the Built Environment*, *28*(3), 547–565.

3.1 Introduction

In recent years, the traditional approach for analyzing housing affordability – the expenditure-to-income or ratio approach – has been subject to continuous criticism for its limitations, more particular its methodological weakness. However, in comparative research the ratio approach along with the popular 30% benchmark keeps being used, partly because of a lack of suitable alternatives. The most recommended alternative in literature – the budget approach for residual income - has in general been overlooked in a comparative context. With the budget standard, the after housing income is compared with budgets needed for minimal participation in society. The approach originated in the context of poverty research but is getting more established in housing affordability studies as well (Bradshaw, 1993; Saunders, 1998; Stone, 2006a; Waite & Henman, 2005; Bramley, 2012).

The minimum budgets are generally constructed by experts together with data on average spending behaviour, for each possible household type. Often they are based on normative guidelines. When a households income 'after housing' is lower than the budget standard 'after housing', housing is regarded 'unaffordable'. The budget standards are always drawn for a particular society and lose their relevance in another time or place. Therefore, in a comparative context, each country should have its own distinct standards needed for minimal societal participation. Since there is no standard way, the budgets are calculated differently between studies and hence between countries (Saunders, 1998; Storms & Van den Bosch, 2009, Bradshaw, 1993; Burke, Stone & Ralston, 2011).

This chapter outlines the possibilities of the standard budget compared to the ratio approach as a benchmark in the comparison of housing affordability across countries. In Chapter 1, the most commonly used affordability indicators were already compared, stressing the added value of the budget approach. In the next section, the application of the budget standards in Flanders and the Netherlands is presented. In the third section, the results of the comparison are presented, whereas the fourth section focuses on the outcome of the budget benchmark for different household characteristics. The fifth section presents the effects of housing quality consumption (as indicated by number of rooms) on housing affordability. The quality aspect is an aspect that generally is not operationalized, even though recognized (Stone, 2006b). For our cross-country analyses the neighbouring 'countries' Flanders and the Netherlands will be our cases, as both have similar welfare levels and a budget standard available to do the exercise.

3.2 Methodology and data

Definition of ratio and residual income

Table 3.1 shows how the expenditure-to-income ratio and residual income are calculated. In this chapter, we analyse the cash flow of households in order to finance their housing consumption. Thus, we examine the housing expenses and disregard the cost for housing services in terms of user cost (which is examined in Chapter 2). In the rental sector, housing expenses are equal to rent, which may be expressed in a gross or net way. Gross rent represents the amount of rent that is paid to the landlord. The net rent is calculated by subtracting the housing allowances that a tenant receives from gross rent. In the owner-occupied sector, gross housing expenses include the monthly mortgage expenses (both capital and interest payments). Furthermore, the gross expenses also include owners' costs, such as owner's share of maintenance costs and property tax. These costs are included in order to make expenses of homeowners better comparable with expenses in the rental sector. For tenants these costs are being paid for by the landlord and are being passed on to the tenant in the gross rent. Net housing expenses for owner-occupiers are calculated after income tax deductions. When it comes to interpreting the results, it is important to keep in mind that homeowners contribute to their wealth by making mortgage capital repayments, which are a significant part of the housing expenses. Moreover, wealth of homeowners may change, in case house prices rise or fall; homeowners run risk. In contrast, tenants do not run the investment risk and pay net rent which finances the consumption of housing services.

The income concept in our study is the 'disposable household income' or as it is also called the after-tax household income. The income of all household members is included, after taxes (except in the case were income taxation is relevant for the expenses of owner-occupiers) and social security contributions. Next to income from work, also social security benefits (pensions, sickness, unemployment and child benefits) and social assistance are taken into account. As housing allowances are deducted from expenses, they will not be included as household income.

The income-to-expenditure ratio is defined as the share of income that is spent on housing. For owner-occupiers the ratio has also been called a debt-service ratio (Brounen et al, 2006; following Bourassa, 1996). Residual income is defined as the difference between disposable household income and net rent or net housing expenses. In our exercise the energy consumption costs (for heating, water and electricity) are not taken into consideration.

We apply the χ^2-test in order to determine whether there is a statistically significant relationship between 'being in a state of unaffordable housing' on the one hand and tenure status or socio-economic household characteristics on the other hand.

We used the Housing Survey 2005 for Flanders, which is a detailed survey on the housing situation of 5216 Flemish households. A face-to-face method was used whereas a weighting

factor was applied to correct the distribution according to region and dwelling type. In order to be able to compare at a point in time, for the Netherlands we used the WoON 2006 Housing Survey, conducted by the Department of Housing. The income data from the tax records for 2005 were linked to the survey data.[2] About 64.000 households were interviewed face-to-face, approximately 54.000 of whom lived in independent units.

Table 3.1 Components of housing expenses in relation to the income of the tenant and the owner-occupier

Tenant		Owner-occupier	
Gross rent*		Gross housing expenses**	
-	Housing allowances	-	Fiscal effect income tax
=	Net rent	=	Net housing expenses
Income-to-expenditure ratio		Income-to-expenditure ratio	
=	Net rent	=	Net housing expenses
/	Disposable income***	/	Disposable income***
Residual income		Residual income	
=	Disposable income	=	Disposable income
-	Net rent	-	Net housing expenses

*) Gross rent includes any costs that the landlord will include in the rent calculation, also for maintenance, property tax, etc.

**) Gross housing expenses include the amounts for financing, property tax and other property owner expenses, such as home insurance fees, ground lease charges, property tax and owner's share of maintenance.

***) Disposable income includes housing expenditure + other consumption expenditure (e.g. energy costs) + savings

Determination of budget norms

Crafting operational residual income standards is a complex exercise that we did not attempt, as other researchers in Flanders and the Netherlands have already created relevant standards, as table 3.2 shows. The 'countries' used different pathways to derive these norms. In a recent minimum budget study for Flanders the researchers took 'A theory of human need' of Doyal and Gough (1991) as a starting point (Storms & Van den Bosch, 2009). This theory allows for a uniform and well thought out drawing of budget standards and is one of the most well-known 'need theories'. The study was performed in several phases. In a first phase the real expenditure of poor Flemish households was studied, by performing data analyses, a literature study, a case study and several focus groups with poor people. In the second phase of the study experts designed normative budgets for the different aspects of the total budget

[2] We realize that registration data on income are more reliable than surveyed data.

standard. Normative amounts were drawn for the costs of food, housing, health care, personal care, clothes and leisure time. When the total budget standards per household type were drawn by the experts, a final round of interviews with poor families was held, to evaluate whether the amounts were reasonable within the framework of 'minimal decent societal participation'. In our study we apply the budget standards of the Flemish study with exclusion of the normative budget for the housing costs. These amounts we will use as thresholds for the residual income.

In the Netherlands, for 2000, minimum budget norms were determined by the SCP (*Sociaal Cultureel Planbureau*) on the basis of budgets drawn up by the Dutch National Institute for Budgetary Information (Nibud). The Nibud norms are calculated by opinions of experts, the availability of goods and actual consumption patterns at the bottom of the income distribution. Per type of expenditure (clothing, food, transportation, …) minimum amounts were determined.[1] SCP applied the Nibud data in order to draw up two variants of the poverty line: a 'basic needs' and a 'modest but adequate' threshold. The basic needs approach is a minimal one and does not allow for many 'extras'. The 'modest but adequate' variant is broader and includes normative costs for recreation, membership of library, sports or hobby club, a subscription to a newspaper or a pet. In this study we will apply the Dutch norms of 2000, with indexation for 2005. As mentioned before, social norms change over time, which might distort the theoretical content of the concepts when five year old norms are applied. SCP therefore reconsiders the content of the minimum budget each year, while linking the indexation to the evolution of median prices (Soede & Vrooman, 2008).

The SCP method differs from the Flemish method in a few ways: first, there is no normative theory as a starting point. Nibud applies normative ideas, yet without a theoretical reference framework as in the Flemish study. Second, in Flanders, the minimum budgets are calculated separately for 16 possible family types, whereas for the Dutch situation we applied an equivalence scale to the budget for a single person. Third, whereas in both studies the opinion of experts was hired, only in the Flemish study the opinion of the people at the bottom of the income distribution was heard.

The Flemish budget is conceived as a minimum budget in order to decently participate in society and is therefore more in line with the Dutch 'modest but adequate' than the 'basic' variant. This is also shown by the content of the Flemish budget, which includes amounts for recreation, membership of sports or hobby clubs, modest travels, DVD and television.

The budget standards are shown in table 3.2 The minimum for a single person in the Flemish study amounts to 916 euros for a man and 917 for a woman, whereas this amount is almost at the same level for the Dutch modest variant (870 euros). The minimum for a single in the Dutch basic variant is much lower (770 euros). Also for couples the Flemish minimum and the Dutch modest minimum are almost alike (1216 versus 1190 euros), whereas the basic variant ends up considerably lower (1050 euros). A comparison between the two countries is thus from a theoretical point of view preferably carried out using the Dutch 'modest but

adequate' approach. Given the fact prices for many goods and services do not differ much between Flanders and the Netherlands, the Flemish budget standard and the Dutch modest budget standard should allow for a considerable similar living standard.

It is essential to take into account that the definition of affordable housing is relative to the society one lives in. In our study, the living standard of the two cases is similar. When the living standard of the countries is highly different, the normative budgets will strongly vary. A comparative analysis across countries will be possible, because the comparison will be based on concepts of affordable housing and 'decent participation in society' within the countries' contexts. A comparison of the relative position of groups across countries will be possible and useful here, as it will be in the situation where the budget standards are drawn up differently in the countries under study.

Table 3.2 Budget standards for disposable income, in euros per month, according to household type, Flanders and the Netherlands, 2005.

Household type	Flanders	The Netherlands, SCP, basic needs	The Netherlands, SCP, modest but adequate
Single	916 (man) 919 (woman)	770	870
Couple	1216	1050	1190

Sources: Storms & Van den Bosch (2009), Soede & Vrooman (2008)

3.3 Results: comparison of ratio and budget benchmark between Flanders and the Netherlands

The aim of this section is to compare the affordability outcome of the budget approach with the results of the expenditure-to-income method in an international context, using Flanders and the Netherlands as cases. More specifically, we search for mechanisms that are present in both countries.

Table 3.3 shows the shares of households with a housing-to-income ratio above 30% and a residual income below the minimum threshold. In Flanders, according to the budget benchmark, housing is not affordable for 14,6% of Flemish households compared to 15,8% using the ratio. These figures are quite similar, but according to tenure the differences are remarkable. Following the budget approach, social housing is the most problematic tenure in terms of affordability, as around 39% of social tenants fall below the RI-standard. Oppositely, according to the ratio, social housing is the least problematic segment (12,2%). Since in Flanders social rent is related to income and in 2005 the maximum rent was set at 20% of taxable income, it is logic that relatively few social tenants fall above the 30% norm. The

private rented sector has relatively the most affordability problems according to the ratio, with 39% above the 30% standard. The share of private tenants below the RI-norm is considerably lower (27%). Further, the affordability for owner-occupiers with a mortgage has a better outcome with the budget method (11%) than the ratio (23%). In contrast, affordability for outright homeowners turns out worse when the budget method is applied. More than two thirds of this group are pensioners, whose disposable income has decreased. Moreover, the largest part of this group has a lower residual income than the threshold even without subtracting the owner's share of maintenance costs and property tax. It becomes clear that - to a certain extent - the budget standard reflects a poverty problem in terms of disposable income. It should yet be noted that outright homeowners possess the dwelling they live in and possibly other assets. Research points out that Flemish elderly have relatively low pensions (Berghman et al, 2011), but high consumption patterns compared to other West and North European countries (Cantillon et al. 2009; Capéau & Pacolet, 2009).

As in Flanders, in the Netherlands the ratio classifies relatively more households having an affordability problem than the 'modest' budget standard, but the difference between both is bigger than in Flanders. This comes about as the homeownership based on the RI-norm is more affordable (difference of 13 % points) than based on the ratio-norm. Like in Flanders, the relative position of homeowners with a mortgage compared to tenants improves when the ratio is replaced with the budget standard. As housing is not affordable for 24% of homeowners with a mortgage according to the 30% ratio, this share falls to 8% when the modest budget standard is applied. For the outright owners the share of affordability problems is higher with the modest budget standard than with the ratio. This implies that the relative position of outright owners is worse according to the budget benchmark than according to the ratio.

This also applies to social tenants in the Netherlands, but to a lesser extent than to those in Flanders. And as in Flanders, when the budget standard is applied, the relative position of private tenants improves, with a mere 20% below the RI-norm instead of 29% that have a higher expenditure-to-income ratio than 30%.

In sum, in both 'countries', compared to the ratio, the relative position of homeowners with a mortgage and tenants on the private market is better with the budget standard. On the other side of the coin it is logical then that the relative position of tenants on the social rented market and of outright homeowners is worse.

Table 3.3 Household with a residual income below the RI-norm and housing expenditure-to-income ratio above 30%, according to tenure, Flanders and the Netherlands, 2005/2006

	Flanders		The Netherlands	
	Ratio > 30%	RI < RI-norm	Ratio > 30%	RI < RI-norm Modest budget
Total	15,8	14,6	21,3	13,9
Owner-occupation	10,4	9,6	21,5	8,2
With a mortgage	*23,3*	*1.3*	*24,1*	*8,4*
Without a mortgage	*0,5*	*8,2*	*4,5*	*6,4*
Rented sector	33,0	30,0	21,2	21,2
Private rented	*39,2*	*27,4*	*29,4*	*19,6*
Social rented	*12,2*	*38,6*	*19,0*	*21,6*
Test	***	***	***	***
N total[1]	4736	4531	54.272	54.272/3

Sources: Woonsurvey 2005 (Flanders); WoON 2006, OTB/TU Delft calculations (the Netherlands)
χ^2-test: ***p< 0.01.
1: Weights were applied to the Dutch and Flemish samples to obtain results for all households.

How can the remarkable difference between the two methods be explained? The percentages for whom housing is unaffordable per income quintile and tenure will help the explanation, for both countries. First the situation for Flanders in table 3.4. When all households are considered, 25% belonging to the first income quintile is having an affordability problem according to the ratio. This percentage is somewhat lower for the second and third quintile, but is still at a level of 13% and 8% in the fourth and fifth quintile, respectively. In the rental market even 18% belonging to the fourth quintile exceeds the 30% threshold. When the budget standard is applied, 59% of households in the first income quintile is presumed to have an affordability problem. For the rental sector separately, this share rises to 86%. In the third quintile the overall share below the RI-norm is not more than 2%, whereas (almost) no household in the fourth and fifth quintile is having a residual income below the norm.

For the Netherlands the figures are similar (table 3.4). According to the ratio, 39% of households in the first quintile and still 17% in the fourth quintile fall above the 30% threshold. Using the budget standard, 57% of households in the first quintile are supposed to have an affordability problem, while this share drops to respectively 3% and 1% in the third and fourth quintile.

These figures indicate that the budget standard primarily identifies lower income households as having an affordability problem, whereas the ratio standard also classifies higher income households in the group with affordability problems. The focus of the budget approach is hence more on the income side – as can be expected from an approach that can be used to identify households in poverty (risk) - whereas the ratio approach focuses more on the housing expenses.

The differences between the tenures resulting from the different methods, stem from these income effects. In the Netherlands and especially in Flanders, the tenants in the social rented sector are overrepresented among the lower income groups (Heylen & Haffner, 2009), which results in a worse affordability score when the budget benchmark is applied. On the other hand, homeowners with a mortgage are overrepresented in the higher income quintiles, resulting in better affordability when the budget benchmark is used instead of a ratio benchmark.

Table 3.4 Households with a housing expenditure-to income ratio > 30% and a residual income below the RI-norm (in %), according to tenure and income quintiles, Flanders and the Netherlands, 2005/2006

Quintiles of equivalent income[1]	Flanders			The Netherlands		
	All households	Owner-occupation	Rented sector	All households	Owner-occupation	Rented sector
Housing expenditure-to-income ratio > 30%						
1	25,1	11,4	50,6	39,4	38,3	39,6
2	19,2	10,5	40,9	22,6	31,4	17,8
3	14,6	10,8	24,8	17,2	25,4	6,1
4	13,1	12,0	18,2	16,5	20,6	2,2
5	8,0	8,3	6,8	10,9	12,0	2,3
Total	15,8	10,4	33,0	21,3	21,5	21,2
Test	***	***	***	***	***	***
Budget standard: RI < RI-norm						
1	59,0	45,3	85,5	57,4	52,7	59,1
2	11,5	7,5	21,9	7,7	12,1	4,6
3	2,1	1,6	3,5	3,0	4,9	0,5
4	0,9	0,9	0,8	1,0	1,3	0,1
5	0,3	0,3	0	0,4	0,4	0
Total	14,6	9,6	30,0	13,9	8,2	21,2
Test	***	***	***	***	***	***
N[2]	4530	3364	1099	54.272	30.299	23.972

Sources: Woonsurvey 2005; WoON 2006, OTB/TU Delft calculations

χ^2-test: ***p< 0.01

1: Calculated for all households

2: Weights were applied to the Flemish and Dutch samples to obtain results for all households.

These results suggest in line with the discussion of figure 1.1 (Chapter 1) that the households will partly be classified the same and partly differently when both methods are considered. This is what table 3.5 shows: the distribution of households according to both affordability indicators. As tables 3.5 points out, in both 'countries' the majority of households do not have an affordability problem, neither by the budget standard nor by the ratio approach. This group is represented by area C in figure 1.1 and consists of respectively 77% and 74% of households in Flanders and the Netherlands. Their housing expenses are less than 30% of disposable

income, while residual income exceeds the standard for decent living. The group whose housing is affordable according to the 30% ratio but has insufficient income left, reaches 7% in Flanders and 5% in the Netherlands (area A in figure 1.1). Poor households will be overrepresented in this group. Moreover, housing expenses are relatively low – otherwise they would exceed the 30% threshold – which might cause them to live in below-standard dwellings. In contrast, respectively 8% and 12% of households in Flanders and the Netherlands have sufficient income left for non-housing consumption, whereas their housing expenses surpass 30% of disposable income (area D). This group will include middle and high income households with a preference for housing consumption who 'choose' to spend more than 30% on housing, because they can afford it. Finally, about 8% to 9% of households in both 'countries' is dealing with unaffordable housing expenses, both according to the ratio and budget standard approach. In this group a high expenditure-to-income ratio is not a choice, but rather an unavoidable outcome.

Table 3.5 Share of households according to two measures of affordability, according to tenure, Flanders and the Netherlands, 2005/2006

	Flanders		The Netherlands	
	Ratio ≤ 30%	Ratio > 30%	Ratio ≤ 30%	Ratio > 30%
Total				
RI ≥ RI-norm	77,3	8,1	73,6	12,5
RI < RI-norm	6,9	7,7	5,1	8,8
N total[1]	631	3781	7546	46.727

Sources: Woonsurvey 2005; WoON 2006, OTB/TU Delft calculations

1: Weights were applied to the Flemish and Dutch samples to obtain results for all households.

3.4 The budget benchmark outcomes for household type and activity status

In this section more outcomes of the budget standard approach calculations are presented: according to tenure and two household characteristics, the activity status of the head of household and the household type.

Table 3.6 shows the percentage of households below the residual income (RI-)norm according to activity status of the head of household. The results are similar for Flanders and the Netherlands, regarding the position of the different groups. Employment appears to be a crucial factor. In case of an unemployed head of household, the share that lives 'not affordable' is highest in both Flanders and the Netherlands, with respectively 56% and 59%. In case of employment the share below the RI-threshold is the lowest in both 'countries'.

Tenancy, or being a tenant also seems to be a crucial factor. Almost in all cases for twice the share of tenants than for owner-occupiers housing is unaffordable according to the RI-norm. The unemployed tenants are the groups for whom the affordability is worst, with a share below the RI-standard of 71% in Flanders and 63% in the Netherlands. Furthermore, the share below the RI-norm is relatively high for sick and disabled people, reaching a level of 36% in the Netherlands and 46% in Flanders. Thus, the results suggest that the replacement income for the sick and disabled is often not high enough for worthy participation in society.

The relative position of (early) pensioners is shown to be better in the Netherlands than in Flanders, in particular in the rented sector. In Flanders, the share of retired tenants below the RI-threshold is 20 percent point higher than the share of working tenants below the standard. In the Netherlands this gap is only one percent point. The gap between the working and retired households is bigger in Flanders than in the Netherlands; especially also because there is no gap between these groups in owner-occupation.

Table 3.6 Households with a residual income below the modest RI-norm (in %), according to tenure and activity status of the head of household, Flanders and the Netherlands, 2005/2006

Activity status head of household	All households	Owner-occupation	Rented sector
Flanders			
Working	8,5	6,7	14,7
(Early) retired	15,5	10,5	34,4
Unemployed	55,6	38,7	70,6
Sick/disabled	32,2	21,1	46,4
Test	***	***	***
N	4530	3364	1099
The Netherlands			
Working	9,5	7,6	13,3
(Early) retired	11,2	7,4	14,2
Unemployed	58,7	25,7	63,2
Sick/disabled	32,7	20,4	36,6
Test	***	***	***
N[1]	54.272	30.300	23.972

Sources: Woonsurvey 2005; WoON 2006, OTB/TU Delft calculations

χ^2-test: ***p< 0.01

1: Weights were applied to the Dutch and Flemish samples to obtain results for all households.

A similar exercise as the one with activity status can be performed for affordability according to household type which are shown in table 3.7. Not surprisingly, in both 'countries' the couples – and especially those without children – do better than the singles and lone parents. The lone parents are the group for whom affordability is most under pressure, with a percentage amounting to 36% and 25% for Flanders and the Netherlands, respectively. These results imply that the household income of couples generally will be relatively higher than for singles and lone parents.

As in the analyses on the activity status, tenure is an important indicator of affordability problems. In Flanders 46% of lone parents in the rental sector fall below the RI-threshold which is almost 9 percentage points higher than for couples with at least one child. In the Netherlands this gap is about 10 percentage points. Furthermore, on both the Flemish and Dutch rental markets the position of couples with children is weaker than for couples without children.

For homeowners however, the results differ. In Flanders – as opposed to the Netherlands – housing is relatively more unaffordable for couples without children than for couples with children. This can be explained by the relatively high share of elderly among the couples with no children among the Flemish homeowners.

Table 3.7 Households with a residual income below the modest RI-norm (in %), according to tenure and household type, Flanders and the Netherlands, 2005/2006

Household type	All households	Owner-occupation	Rented sector
Flanders			
Single	16,1	6,3	31,3
Lone parent	36,3	29,4	45,7
Couple, no child	8,5	7,0	14,7
Couple with child(ren)	14,5	4,2	37,0
Test	***	***	***
N	4530	3364	1099
The Netherlands			
Single	21,1	11,8	25,8
Lone parent	25,4	19,0	28,4
Couple, no child	6,2	4,8	8,7
Couple with child(ren)	10,4	7,9	18,6
Test	***	***	***
N[1]	54.273	30.298	23.974

Sources: Woonsurvey 2005; WoON 2006, OTB/TU Delft calculations

χ^2-test: ***p< 0.01

1: Weights were applied to the Dutch and Flemish samples to obtain results for all households.

3.5 Influence of overcrowding and overhousing on outcomes

The aim of this section is to show the effect that housing quality may have on housing affordability. As the databases that are used do not contain comprehensive measures of housing quality, the exercise is performed with a variable that indicates the space available for households. As information about the surface of the dwelling (expressed in square meter) is not available in both databases, we use the second best in this case, being the number of rooms available. When a dwelling has less than a combination of one living room, one bedroom per couple/single and child and one hobby/working room, the housing situation is

classified as ‘overcrowded’. In case the dwelling consists of more rooms than specified in the previous sentence, the situation is categorized as ‘overhousing’.

In table 3.8 figures are presented of the households that exceed the RI-standard, but who fail to meet a certain housing standard, operationalized as a norm for overcrowding. This housing situation is illustrated by area 3 in figure 1.2 (Chapter 1). Also, results are shown of the households that fall below the RI- threshold, but whose dwelling is too large according to our housing indicator (area 2 in figure 1.2). This situation is called ‘overhousing’. In table 3.8 these figures are also compared to the results of the standard budget approach, in order to get an impression of the size of the problem. In addition, the results are presented for different tenures.

About 8% of Flemish households do not face affordability problems according to the budget approach, but live in an overcrowded dwelling. Again, this figure is significantly higher in the rental than owner-occupied sector (18% compared to 5%). In particular the outright owners have a relatively small share of overcrowded dwellings, which is a consequence of the overrepresentation of pensioners in this group. Their children most likely already left the parental home, resulting in a number of ‘empty’ rooms. In the Netherlands 12% surpasses the RI-threshold while living in an overcrowded dwelling. As in Flanders, the situation is better for owner-occupiers (11%) than in the rental market (13%). These figures indicate that in both ‘countries’ the affordability problem might increase significantly, if these families would move to a suitable and probably more expensive dwelling.

Finally, in both ‘countries’ about half of group with an affordability problem (7%) appears to be ‘overhoused’. In the owner-occupied sector – and especially for the outright owners - the combination of affordability problems and overhousing is relatively widespread, in Flanders as well as the Netherlands. It is logical that overhousing appears most frequently in relative terms among outright homeowners, since more than two thirds of this group are pensioners. But also in the rental sector a substantial part of the households that fall below the RI-norm live in a ‘overhoused’ manner, both in Flanders and the Netherlands. These results point out that the share that has a residual income below the RI-threshold might substantially decrease if each household would choose to live in a dwelling that exactly fits their family size. Of course, due to future family expectations, recent changes in family composition (children leaving) or preferences for large dwellings, an exact fit between family and dwelling size will not always be achieved.

Table 3.8 Households with a residual income below the RI-norm (and 'overcrowded') and with a residual income above the RI-norm and 'overhoused', in percentage, according to tenure, Flanders and the Netherlands, 2005/2006

	Flanders			*The Netherlands*		
	RI < RI-norm	RI < RI-norm + overhoused	RI ≥ RI-norm + overcrowded	RI < RI-norm*	RI < RI-norm + overhoused	RI ≥ RI-norm* + overcrowded
Total	14,6	7,1	7,9	13,9	7,3	11,9
Owner-occupation	9,6	6,0	4,7	8,2	5,0	9,5
With a mortgage	*11,3*	*6,2*	*7,5*	*8,4*	*5,0*	*11,7*
Without a mortgage	*8,2*	*5,9*	*2,5*	*6,4*	*5,2*	*3,2*
Rented sector	30,0	10,5	17,8	21,2	10,1	13,6
Private rented	*27,4*	*11,2*	*18,3*	*19,6*	*10,4*	*12,7*
Social rented	*38,6*	*8,2*	*16,0*	*21,6*	*10,0*	*13,8*
Test	***	***	***	***	***	***
N total[1]	4531			54.272		

Sources: Woonsurvey 2005; WoON 2006, OTB/TU Delft calculations

χ^2-test: ***p< 0,01.

*modest budget

3.6 Conclusions

The aim of this chapter was to analyze the usefulness of the budget approach in comparison with the ratio approach for comparing housing affordability across households and across countries. We discussed the advantages of the budget approach in comparison with the ratio approach for a single country analysis. From the discussion of the ways of measuring the price or rent of housing consumption, it follows that a ratio approach –for example 30% of income spent on housing is considered affordable– regardless of income level or household size can never be a very precise indicator of whether households can afford the access to their dwelling. It can however be used to observe whether households in due course are needing to pay more or less over time for their housing, for example.

A residual income approach based on budget standards starts from the other end, determining first what cash amounts different household types need minimally for their 'other' consumption next to housing. Then it determines whether residual income, the disposable income left after housing expenses are deducted, is sufficient for this other consumption. If

not, housing is considered unaffordable for a household. From a methodological point of view the budget standard thus must be considered superior to a rule of thumb of for instance 30%. It is also more precise than the ratio and would be more useful in the case of determining norms for housing allowances and mortgage loans.

Despite its methodological advantages for single country analyses, affordability comparisons across countries using the budget standard, especially based on absolute amounts of budget needed, are yet not found in literature. When applying the budget standard to Flemish and Dutch housing expenses in 2005, we find that in both 'countries' these results differ from the results based on the affordability ratio. Especially, for the rental sector – which often policy makers focus on, especially the social sector – these results are relevant. With the ratio approach housing consumption is considered unaffordable for larger shares of private tenants than social tenants, while with the budget approach, it is the other way around. This effect is stronger in Flanders than the Netherlands, as the social rented sector in Flanders is relatively poorer. More in general, the budget standard will define the situation of the poorer groups – such as the social tenants in case of housing tenure – more problematic than the ratio. As the budget approach is more precise in signalling which households cannot afford their housing consumption in terms of other consumption needs, it would seem that this result has certain policy consequences.

Regarding analyses across countries, we suggest that the budget standard offers interesting possibilities in pinpointing households that really can be considered having troubles in financing their housing consumption. In such an analysis, it is yet necessary to take into account that the definition of housing that is considered affordable, is relative to the society one lives in. In our example, the two 'countries' - Flanders and the Netherlands – have a similar living standard, which is reflected in similar budget norms. In case the living standard is strongly different, the budgets that are needed for a decent participation in society will differ to a large extent. A comparison using budget norms will still be possible when these differences in living standard are thoroughly discussed. The comparison will then be carried out relatively to the living standards of the countries at stake. This also will be a useful approach when the methods for drawing the budget standards differ between the countries; therefore, the budget approach for residual income will still be useful in a comparative setting. As shown in our analysis for Flanders and the Netherlands, the comparison can focus on the differences in relative position of groups of households, such as tenure status, activity status of the head of household or household type.

Furthermore, an affordability comparison between countries using the budget standards may inform us about the way the income support systems perform. In our study, Flanders and the Netherlands are at the same level regarding the percentage of unemployed and sick/disabled that fall below the residual income standard. Concerning the (early) retired, the Netherlands performs significantly better than Flanders.

Affordability however, is not only about the price of housing consumption and a threshold of reasonableness in relation to income, it ideally should also be about the quality of housing being consumed in relation to needs. It would show whether the price and income thresholds are related to the same or different level of quality that is being consumed. Our analysis pointed out that the use of a housing standard in a comparative budget approach analysis is feasible and adds interesting points to the results. We pointed out that in both 'countries' the group falling below the RI-threshold might significantly increase, if households would choose not to live in overcrowded dwellings. On the other hand, about half of the group below the RI-standard lives in a dwelling that is larger than strictly needed. Here, there is a chance for reducing the group with affordability problems. To some extent the 'overconsumption' of housing in terms of room numbers is a temporary phenomenon, as families anticipate future children. But on the other hand many older families still live in a dwelling that was initially chosen for raising a family.

Endnotes: [1]Bradshaw and Mayhew (2010a, b) apply the Dutch NIBUD-norms to all EU-countries as an alternative to the Eurostat at risk-of-poverty measure.

Acknowledgments: We would like to thank Gust Mariën (OTB – TU Delft) for calculating the results for the Netherlands.

Chapter 4

The distributional impact of housing subsidies in Flanders

Abstract
In this chapter the distributional effect of housing subsidies in Flanders is analyzed. In addition, the mechanisms that lead to this distribution are clarified. The distributive impact is measured by means of the user cost concept and income quintiles. In order to calculate the level of subsidies the actual user cost is compared with a benchmark cost. Regarding tax expenditure, the benchmark is the generally accepted tax system. With respect to owner-occupiers the discussed subsidies are the mortgage tax relief, the reduced VAT rate for renovation, the reduced transfer tax rate and the imputed rent tax reduction. With regard to the rental sector, social housing and the housing allowance are the subsidy schemes at stake. The results show that the tax advantages are mainly received by the 40% highest incomes. The reductions on property tax and transaction costs are to a lesser extent directed at higher incomes, since they include a condition of modest housing. The subsidies in the rental sector for the most part go to the two bottom income quintiles. Overall, the average owner-occupier receives four times more than the average tenant.

This chapter is based on the following article:

Heylen, K. (2013), The distributional impact of subsidies related to housing in Flanders. *International Journal of Housing Policy, 13*(1), 45-65.

4.1 Introduction

The goal of this chapter is to analyze the distributional effects of the subsidy systems related to housing in Flanders. It explores how the different subsidies are distributed over various income groups and tenure type, for the situation in 2005 (tax subsidies) and 2008 (non-tax subsidies). In addition, we attempt to clarify the mechanisms leading to this distribution.

Every measure initiated by the government that lowers the cost of the consumption or production of housing is regarded as a housing subsidy. Housing subsidies can take many forms; they can be direct cash payments from the government to the beneficiary or they can be implicit, such as the difference between subsidized rent and the market rent. Also tax measures related to housing can be regarded as housing subsidies. For owner-occupiers in Belgium, several tax advantages are available: mortgage interest relief, the reduced VAT rate for renovation, the reduced transfer tax rate and the reduction of the imputed rent tax. With regard to subsidies in the rental sector there is available below-market rent for social housing and the housing allowance.

The subsidy levels will be determined by comparing the actual housing costs to a benchmark cost. In order to calculate these costs we apply the 'user cost' concept. Within this perspective a dwelling is regarded as an investment good that generates housing services that can be consumed. The user cost is the price households pay for these services. The application of the user cost concept in the field of housing subsidies has a longstanding tradition in Anglo-Saxon literature (Flood & Yates, 1989; Hills, 1991; Hancock & Munro, 1992; Haffner & Oxley, 1999). In more recent years the concept has also been applied in Belgian studies (e.g. Doms et al, 2001).

The analysis builds on the theoretical framework concerning housing subsidies discussed in Chapter 1. Further, for a detailed discussion of housing subsidy schemes in Flanders, also Chapter 1 can be addressed. In the following section, a short literature review on the distributional effects of housing subsidies is presented. The methods and data concerning the analysis are then discussed. The results and conclusions are presented in the final sections.

4.2 Studies on distributional effects of housing subsidies

In an influential study from 1991, Hills discussed the results of several UK studies on the distributional effects of housing subsidies. In addition, he explored the British situation for 1989 using different tax benchmarks. Other influential comprehensive studies on the topic – covering both the rental and owner-occupied sector - are by Rosen (1985) for the U.S., Hancock & Munro (1992) for Glasgow and Flood & Yates (1989) for Australia. In these last two studies the subsidies are calculated by means of both a cash flow and an economic cost concept. In 2000 Haffner applied the tax neutrality benchmark to draw a picture of owner-

occupied tax subsidization in Denmark, England, Netherlands and Western Germany. She calculated the cost of subsidies for representative hypothetical cases (typical households).

In recent times several studies have been published on the topic. Matsaganis & Flevotomou (2007) explored the impact of mortgage tax relief system for owner-occupation in five EU countries, applying the simulation model EUROMOD. Ter Rele & Van Steen (2003) focused on the distributive impact of subsidies on both rental and owner-occupied housing in the Netherlands. For the Czech Republic Lux, Sunega & Boelhouwer (2009) analyzed the distributional effect of mortgage interest relief, the implicit subsidies of rent control and housing allowances. In 2004 the Australian Institute of Health and Welfare published a comprehensive study on the distributional effects of Australian housing benefits in both the owner-occupied and rental sector. They concluded by comparing aggregate subsidy levels by tenure. In these studies, generally mortgage tax relief or other tax benefits are found to be overrepresented among higher income groups whereas housing allowances and public/social housing subsidies are found to be concentrated at the bottom of the income distribution.

The most recent comprehensive Flemish study on the topic– using the user cost approach - was published by Doms et al in 2001. They applied the 'typical cases' methodology to explore the subsidy mechanisms in the Flemish owner-occupied sector. Survey and administrative data were used to explore the subsidy systems in the Flemish rental sector. The study pointed out that the mortgage interest relief is bigger for higher incomes but smaller in relative terms. The VAT subsidy for renovation was found to be equal among different income groups of renovators. Also, no income effects were found for the reduction of imputed rent tax. The authors presumed that each income group bought, renovated or built a dwelling of equal value, which was a clear limitation of this study. Therefore, the discovered effect concerning mortgage relief is only due to the impact of the marginal tax rate and not due to differences in dwelling values between income groups. Finally, a Flemish study on administrative data of 1995 pointed out that only 10% of all housing subsidies went to the bottom quintile, whereas 40% was directed at the top quintile (De Decker, 2000).

4.3 Methodology and data

In order to calculate the subsidy levels – the difference between the benchmark and the actual housing cost – we make use of the user cost concept. Within the user cost framework, housing is regarded as an investment good that produces a flow of housing services that can be consumed. The cost of these services is called the user cost of housing, being the opportunity cost of the investment in housing instead of an alternative investment good.

Table 4.1 shows the different components of the theoretical and actual user cost in Flanders, for both tenants and owner-occupiers. In contrast to the cash flow concept – which measures the expenses for housing at a certain time – the user cost takes the cost of owners' equity into account. The opportunity cost of the owner's equity was calculated as the after-tax earnings of

an alternative investment in the long run, being the yield of a state bond over ten years. The earnings on this kind of investment are taxed at a rate of 15%. Other important components of the user cost are the yearly paid mortgage interest and the holding costs. The latter includes the costs of maintenance and depreciation of the dwelling. Finally, the user cost also includes the benefit or loss of the expected dwelling value change. As house prices in Flanders rose strongly in the period before 2005, this component yielded a 'profit' for homeowners. In the rental sector the user cost is the same as the cash flow rent (Poterba, 1992; Haffner, 2000).

In case of the theoretical user cost of homeowners, possible tax advantages and other subsidies are not taken into account. Benchmark costs are supposed for each component. VAT on renovation and transfer tax are assumed to be calculated at the normal rate (respectively 21 and 10%). Concerning mortgage interest there is assumed no deduction in the income tax. Also, possible tax reductions of imputed rent are not applied. The actual user cost of owner-occupiers is calculated by taking account of all actual tax advantages and the implicit subsidy in case of a social loan. In the rental sector, the theoretical user cost is the market rent. In order to calculate the actual user cost, the market rent should be corrected for housing allowances and the implicit subsidy in social housing.

In order to determine the user cost for homeowners, certain assumptions need to be made. We assume for example that the transfer tax and VAT on renovation are paid by their own means.

Table 4.1 Components of the theoretical and actual user costs of housing in the rental and owner-occupied sector, in Flanders, 2008.

Rental sector	Owner-occupied sector
Market rent	Mortgage interest
	+ Interest on owner's equity
	+ Benchmark VAT on renovation
	+ Benchmark transfer tax
	+ Benchmark imputed rent tax
	+ Holding costs
	+/- Value change of the dwelling
= *Theoretical user cost*	= *Theoretical user cost*
- Housing allowance	- Mortgage tax relief
- Subsidy social housing	- Reduction transfer tax
	- Reduction VAT on renovation
	- Reduction imputed rent tax
	- Subsidy social lending
= *Actual user cost*	= *Actual user cost*

In order to assess the distributive impact of the subsidies we apply quintiles of equivalent income. Each income quintile represents 20% of the total population. The lowest quintile represents the 20% lowest equivalent incomes in society, whereas the fifth quintile

corresponds to the 20% highest incomes. Disposable income is made equivalent by using the adjusted OECD equivalence scale.

The Housing Survey (*Woonsurvey*) 2005 is used as data source for calculating the tax subsidies in the owner-occupied sector. This survey contains the necessary data on subsidies for home-owners that moved in the period 1995-2005, based on a sample of 5216 households. Regarding the rental sector, administrative data on housing allowances and social housing are delivered by respectively the Flemish administration (Department RWO) and the Flemish agency for Social Housing (VMSW). The provided databases include the necessary data on family income and composition for calculating the equivalent income. The boundaries of the income quintiles are calculated by using the Housing Survey 2005 and indexed to 2008 for the analysis of the administrative data. Information on the market rent is provided in the administrative dataset of social housing. Market rent was determined for a substantive part of the social housing stock by estimates of notaries.

4.4 Results: tax advantages in owner-occupied sector

Table 4.2 shows the theoretical and actual user cost of housing for the Flemish homeowners that moved in the period 1995-2005. Only 8% of this group does not have an outstanding mortgage. The average actual user cost was 12.083 euros, whereas the benchmark user cost reaches 13.382 euros. The mortgage tax relief is by far the largest fiscal advantage, providing an average yearly benefit of 1020 euros. The reductions of the transfer tax and imputed rent tax reach on average respectively 132 and 41 euros. These advantages are only granted to correspondingly buyers and owners of a modest dwelling. The reduced VAT on renovation produces an average yearly benefit of 106 euros.

Table 4.2 Theoretical and actual user cost, tax advantages, for owner-occupiers, for different components, average per year, Flanders, 2005.

	Tax advantage (euros)	Actual user cost (euros)	Theoretical user cost (euros)
Mortgage interest	1020	3555	4575
Interest on owner's equity (exclusive VAT on renovation, transaction tax)		5065	5065
Interest on transfer tax	132	389	521
Interest on VAT for renovation	106	53	159
Imputed rent tax	41	474	515
Holding costs		2547	2547
Total	1299	12.083	13.382

Source: Housing Survey 2005, n=576.

In Table 4.3 the fiscal advantages for homeowners are presented according to income quintiles of the owner-occupied sector. In addition, the rate of the total tax subsidy to the theoretical user cost is presented. The quintiles are based on incomes in the owner-occupied sector, since they allow us to better clarify the mechanisms at stake rather than population quintiles. Regarding mortgage tax relief, the subsidy rises with income until the third quintile. This effect is caused by the impact of the marginal tax rate and the positive link between the loan amount and the tax advantage. The higher the mortgage amount, the higher the tax relief. This effect is limited to the first three quintiles since there is a built-in maximum to this system. Further, the fiscal advantage drops in the fourth quintile, followed by a peak in the fifth quintile. This drop is caused by the specific family profile of the fourth quintile. This group is marked by an overrepresentation of young people for whom their first dwelling is often not their permanent home. Therefore, the dwelling value and correlated tax advantage is relatively low in this group.

The VAT reduction on renovation is also positively related to income, with the exception of the fourth quintile. In the highest quintile the mean VAT subsidy reaches 149 euros, compared to only 77 euros in the second quintile. On average, higher incomes carry out more expensive renovations, which increases the subsidy level. As shown in Table 4.3, in the lowest two quintiles the renovation costs are roughly 20.000 euros, compared to 44.509 euros in the top quintile.

The relationship between the reduction of the transfer tax and income is opposite. The highest quintile gets the lowest subsidy (91 euros), whereas the lowest quintile on average receives the most (154 euros). Also for the reduction of the imputed rent the highest quintile receives

on average less than the other quintiles. For both measures this result is due to the 'modest dwelling' condition, as these dwellings tend to be overrepresented in the lower income groups (see last column of Table 3).

Finally, when we look at the average rate of the total tax subsidy to the theoretical user cost, the differences are relatively small. In the first quintile the rate is on average 9,1%, which is significantly lower than in the second, third and fourth quintile. In these groups the tax rate is about 11,5%. The rate drops to 10% in the highest quintile, which is a result of the higher theoretical user cost of this group.

Table 4.3 Tax advantages for owner-occupiers, renovation costs and total tax subsidy as % of theoretical user cost, average per year, share of modest dwellings, according to quintiles for owner-occupiers, Flanders, 2005.

Quintiles	Mortgage tax relief (euros)	Reduction VAT on renovation (euros)	Reduction transfer tax (euros)	Reduction imputed rent tax (euros)	Total tax subsidy/ theoretical user cost (%)	Reno-vation cost (euros)	Modest dwelling (%)
1st	575 [all]	88 [5]	154 [5]	55 [3,4,5]	9,1 [2,3,4]	21.223 [3,5]	65*
2	993 [1,3,5]	77 [5]	151 [5]	47 [3,5]	11,3 [1]	20.416 [3,5]	54
3	1233 [1,2,4]	114	114	37 [1,2,5]	11,6 [1,5]	37.374 [1,2]	39
4	1082 [1,3,5]	103	143 [5]	43 [1,5]	11,6 [1,5]	28.742 [5]	55
5th	1237 [1,2,4]	149 [1,2]	91 [1,2,4]	24 [all]	10,0 [3,4]	44.509 [1,2,4]	23
Total	1020	106	132	41	10,7	878	48

Source: Housing Survey 2005, n=576.
*chi square: $p<0,05$; [1,2,3,4,5,all]: value significantly differs ($\alpha=0,05$) from the value for the category of the assigned number.

Figure 4.1 presents the distribution of the total amount of tax advantages according to income quintiles of the population. Since owner-occupied dwellings are overrepresented in the higher income groups, the total tax advantage for 73% is directed at the two highest quintiles in the population. The two top quintiles receive more than 70% of total mortgage tax relief and VAT reduction, whereas the lowest quintile gets less than 5% of these two measures.

The reduction of transfer tax and imputed rent tax is to a lesser extent concentrated among the highest incomes. More or less 60% is directed at the two highest quintiles. Between 8 and 10% is received by the lowest quintile. Thus, the 'modest dwelling' condition to a certain extent corrects for the general tendency that fiscal subsidies are mainly directed at the rich. This general tendency follows not only from the distribution of tenure according to income,

but also from the distribution of dwelling value according to income. Higher values generate higher mortgage tax relief and higher VAT reduction on renovation costs.

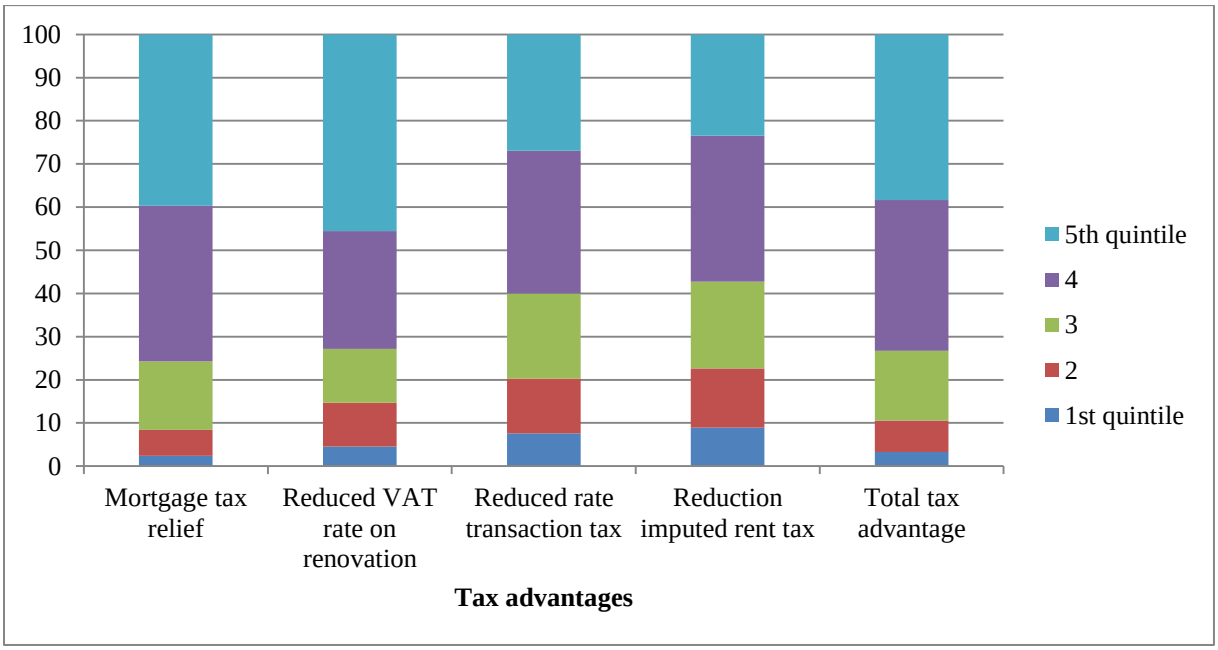

Figure 4.1 Tax advantages for owner-occupiers, distribution of total amount according to income quintiles of the population, Flanders, 2005, *Source*: Housing Survey 2005.

4.5 Results: subsidies in rental sector

For the rental sector, we explore the subsidy distribution of both social housing and housing allowances. Table 4.4 shows the monthly subsidy, theoretical and actual user cost for the beneficiaries of the two systems in 2008. In addition the average share of the subsidy in the theoretical user cost is shown. Next to the total average amounts, the averages and distribution according to income quintiles (of the population) are presented.

In 2008 social housing in Flanders provided a home for about 141.000 households, on a total of 2,5 million. Data on the market rent and implicit subsidy were available for about 42% of this group. As Table 4.4 shows, the average subsidized rent is 237 euros per month, whereas the market rent is on average 469 euros. This results in a mean implicit subsidy of 232 euros and is on average almost 48% of the theoretical user cost or market rent. The subsidy is significantly lower for higher incomes as a result of the calculation of the subsidized rent (see section three). Tenants belonging to the lowest quintile receive 286 euros per month, compared to only 15 euros in the highest quintile. The actual rent strongly rises with income. This income effect is due to the subsidy effect, since the market rent hardly varies over the income groups. In the first quintile, the subsidy represents on average 59% of the market rent, whereas it is 20% in the third quintile and lowers to a level of 2,7% in the fifth quintile. The

last column of the Table 4.4 show that almost 52% of the beneficiaries belong to the lowest 20% incomes in the population, and only 4% to the highest 40%. This distribution results from the strict income conditions of Flemish social housing.

About 6000 tenants are receiving a Flemish housing allowance under the old conditions in 2008 whereas 2000 fall within the new system which has existed since 2007 (for 1210 beneficiaries the data was missing). When all beneficiaries of the housing allowance are taken together, the average subsidy is 92 euros, whereas the allowance represents on average 31% of the market rent. Due to the low income boundary as per the admission criterion, almost 91% of the beneficiaries belong to the first income quintile, whereas the other 9% falls within the second quintile. In line with the features of the allowance calculation, the subsidy is higher for the ones belonging to the first quintile, with on average 96 euros compared to 55 euros in the second quintile. In the first quintile, housing allowance accounts for 32% of the market rent, compared to 18% for the households belonging to the second quintile. Furthermore, for the 26% that falls within the new system, the subsidy rate (51%) is considerably higher than in the old system (27%). This leads to an average allowance of respectively 72 and 185 euros in the old and the new system. The mean actual rent however hardly differs between the beneficiaries of the new and the old system, as a consequence of the higher allowed maximum rent in the new system.

Table 4.4 Theoretical and actual user cost, subsidy, average per month, for beneficiaries of social housing and housing allowances, according to income quintiles of the population, distribution of beneficiaries, Flanders, 2008

	Subsidy (euros)	Actual user cost / subsidized rent (euros)	Theoretical user cost / market rent (euros)	Subsidy/ theoretical user cost (%)	Distribution beneficiaries (%)
Social housing (n=58.881)					
Total	232	237	469	47,9	100
Income quintiles					
1st	286	195	481	59,0	51,8
2	209	251	460	44,5	33,5
3	102	365	467	20,3	10,8
4	36	436	472	6,5	3,1
5th	15	454	469	2,7	0,8
Housing allowance (n=8095)					
Old and new system	92	199	291	30,8	100
Income quintiles					
1st	96	196	292	32,1	90,8
2	55	236	291	18,2	9,2
3rd -5th	-	-	-		0
Old system	72	196	268	26,9	74,4
New system	185	197	382	51,3	25,6

Sources: VMSW, Agency Wonen, RWO.

The distribution of the total subsidy amounts over income groups for social housing and housing allowances is shown in figure 4.2 As a result of the income admission criteria and the regressive nature of the subsidies, the lowest income quintile receives by far the most, in both subsidy systems. Since the income admission criteria are less strict in social housing, the subsidy involved is less directed at the lowest income quintile than in the case of housing allowances. Respectively 98 and 90% of the budget of housing allowances is received by the 20% lowest incomes in society according to the old and new system. For social housing this figure is 60%. The housing allowances in the new system are less directed at the lowest quintile, not because of changed income boundaries but because the benefits of the beneficiaries in the second quintile tend to be higher than before.

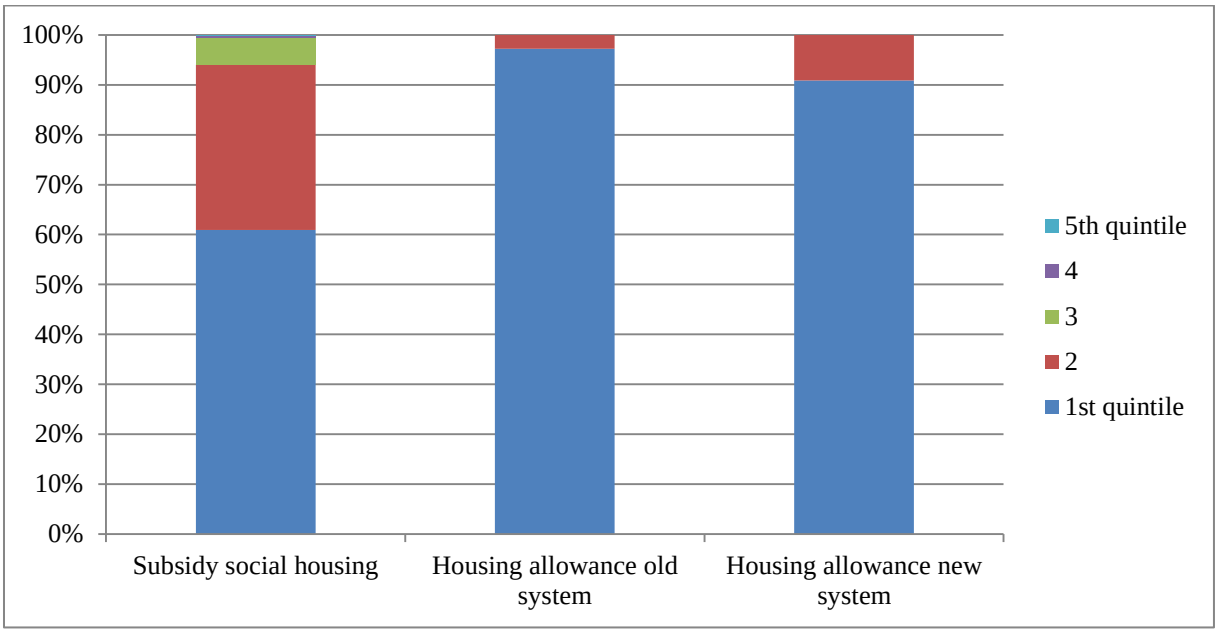

Figure 4.2 Subsidy of social housing and housing allowance, distribution of total amount according to income quintiles of the population, Flanders, 2005, *Sources*: Housing Survey 2005, VMSW, Agency Wonen, RWO.

4.6 Overall picture of housing subsidization

In order to draw a general picture of the subsidy distribution, figure 4.3 shows the average subsidy amounts per subsidy system according to income quintiles of the population for 2008. Regarding the owner-occupied sector a couple of assumptions had to be made, which is a drawback in this study. First, with regard to mortgage tax relief, we assume that the amounts and distribution (according to income) for the movers between 1995 and 2005 is equal to the one for all mortgagors in 2005. Second, concerning the other fiscal advantages we also presuppose that the subsidy amounts and distribution for owner-occupiers that moved in the period 1995-2005 is the same as the distribution for all owner-occupiers. In addition, the amounts of 2005 (Housing Survey) were indexed to 2008, assuming that there was a status quo in this period.

Figure 4.3 shows that the two highest quintiles benefit most from housing subsidies, closely followed by the first quintile. Households in the second and third quintile tend to benefit least. Thus, on the whole, the outcome shows a moderate Matthew-effect. The high benefits to the top quintile is due to the distributive effect of mortgage tax relief, whereas the positive score of the lowest quintile is mainly caused by the selectiveness of social housing. Further, mortgage tax relief is by far the subsidy with the strongest impact, which results from the high frequency of the measure (one third of all households) and the relatively high subsidy amounts. Social housing has the second largest impact, which mainly results from the high

subsidy levels (232 euros per month) as the incidence of social housing is rather low (5,6%). The reduction of the transfer tax has the third largest impact. When the advantages of VAT on renovation, transfer tax and imputed rent tax are counted together, their yearly amount is 59% of the subsidy of mortgage tax relief.

The advantage of mortgage tax relief strongly rises with income, from a yearly average of 77 euros for households in the first quintile to 734 euros in the highest quintile. This outcome is related to the fact that higher incomes are overrepresented among mortgagors and that the fiscal advantage rises with income. Further, the social housing benefits are strongly concentrated in the first quintile. From the third quintile onwards, the average social housing subsidy is very low. Because of the low incidence of the housing allowance, the impact in the overall picture is very limited.

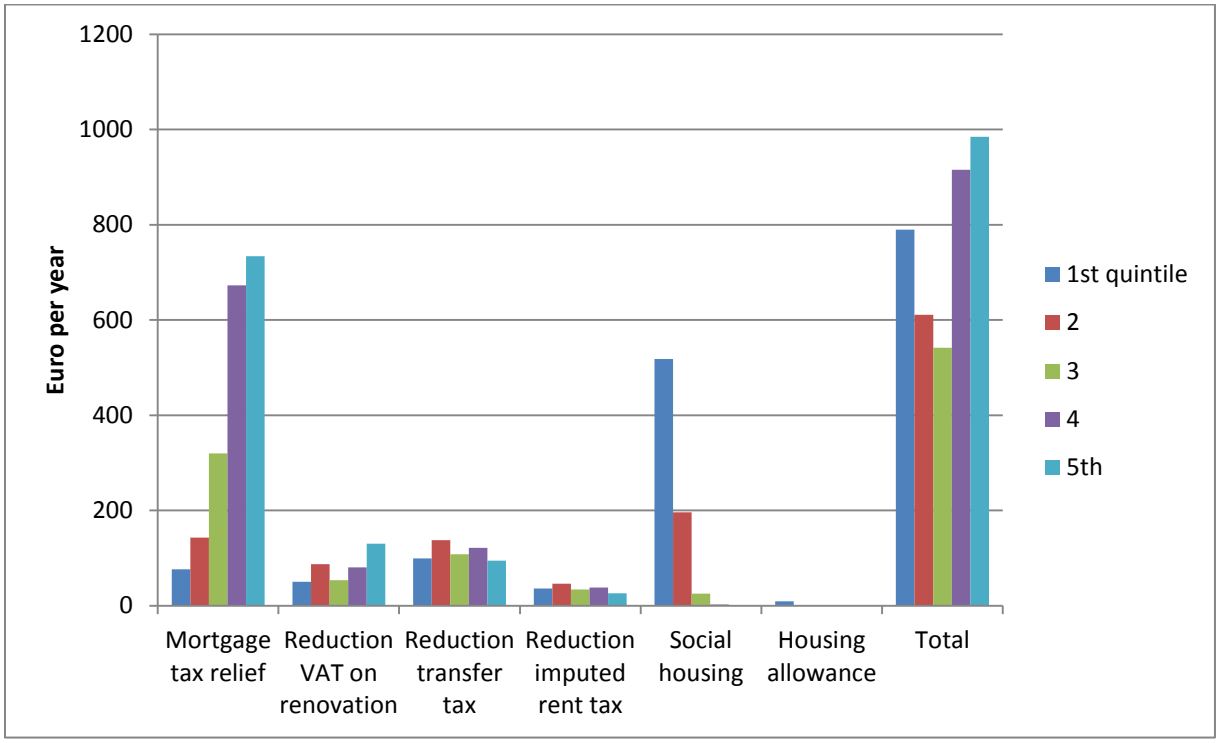

Figure 4.3 Average yearly subsidy amount (in euros), according to housing subsidy measure and income quintile, all households, Flanders, 2008, *Sources*: Housing Survey 2005, VMSW, Agency Wonen, RWO.

Figure 4.4 presents the average yearly subsidy amount of all discussed housing subsidies according to income and subsidy by tenure. Overall, the average household receives 155 euros rental housing subsidy per year, compared to 618 euros for the owner-occupier subsidies. This means that tenants receive on average 643 euros of housing subsidies per year and owner-occupiers on average 831 euros. Thus, on average owner-occupiers are more strongly

subsidized than tenants, by 29%. Regarding the rental subsidies, the result is mainly the outcome for social housing. The lowest incomes get the most whereas the 60% highest incomes are left out. With regard to owner-occupiers, the relationship with income is in the opposite direction. The total subsidy levels are considerably higher for households belonging to the two highest income quintiles than for the other households.

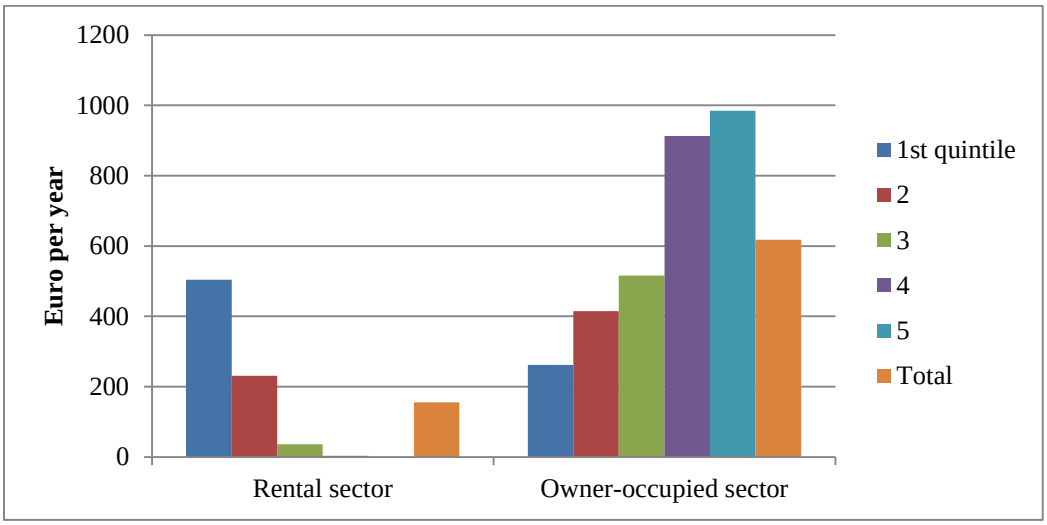

Figure 4.4 Average yearly subsidy amount for all housing subsidies (in euros), according to income quintile and subsidy by tenure, all households, Flanders, 2008, *Sources*: Housing Survey 2005, VMSW, Agency Wonen, RWO.

4.7 Methodological discussion

Before turning to the conclusions, we will discuss briefly some of the methodological limitations of our study and the consequences of the tax expenditure definition we chose for. We followed the definition of the Belgian High Council of Finance, stating that tax expenditure is a revenues decrease resulting from a deviation from the general taxation scheme in favour of defined groups or economic, social or cultural activities. If 'tax neutrality' was chosen as the benchmark for defining fiscal benefits, our results for the owner-occupied sector would have been different. According to this benchmark, housing assets should be treated equally in taxation as other investment assets. Since the earnings of other types of assets (bonds, shares) are taxable, non-taxation of imputed rent and non-taxation of capital gains should be regarded as fiscal advantages. In Belgium, taxation of imputed rents exists, but the value of the imputed rent is highly underestimated, as the reference date for the estimation is still set at 1975. Therefore, the real imputed rent is to a large extent not taxed. The inclusion of this non-taxation benefit will strongly increase the fiscal advantage of owner-occupiers, and enhance the housing subsidization difference regarding the rental sector. In addition, as imputed rent is in general higher for large, luxury dwellings, and these dwellings are generally occupied by higher incomes, non-taxation of imputed rent will be distributed

more strongly towards higher incomes. In Belgium, like in most European countries, capital gains of housing transactions are not taxed (except when owners sell their dwelling within a 5 year period following the purchase). If the tax neutrality benchmark was applied, non-taxation of capital gains would also be included in the analysis. This tax benefit is largely dependent on price evolutions in the housing market. In 2005, the year of our analysis, the average house price doubled in real terms since 1995. In Chapter 2, we calculated an expected capital gain of 19.703 euros for 2005 in Flanders, meaning that non-taxation of these earnings entails a considerable fiscal advantage. Moreover, we pointed out that capital gains increase with income, as large dwellings are overrepresented among higher income groups. Thus, including this tax advantage in the analysis would improve the subsidization picture for the owner-occupied sector and strengthen the tendency that tax benefits for housing rise with income.

A limitation of this study is that the behavioral effects of households to housing subsidization were not included in the analysis. The results might have been different to some extent if they were. For example, the mortgage tax deduction in Belgium is a general system, which strongly enhances the borrowing capacity of households. Several researchers point out that mortgage tax relief enhances housing demand, which might increase prices to a large extent when price elasticity of housing supply is low. The degree to which the tax relief is reflected in house prices approaches 100% according to Berger et al (2000) for the Swedish situation in the period 1981-1993. Recently, Brounen and Neuteboom (2008) estimated that about 75% of the subsidy is reflected in house prices in the Netherlands. On the other hand, several studies point out that the capitalization effect of mortgage tax relief is rather limited. For Italy, Jappelli & Pistaferri, (2007), found that mortgage tax relief did not affect housing demand. Also, Bourassa and Grigsby (2000) estimated for the United States that the subsidy is reflected in prices at a rate of 14%. In Belgium no study has focused on this topic yet. As housing supply in Flanders is generally regarded as rather inelastic mortgage tax relief will probably be reflected in house prices to a considerable extent (Vastmans & Buyst, 2011). This means that the actual subsidy level will be lower than the formal subsidy level we calculated in this study. Finally, with regard to the housing allowance in Flanders, the incidence of the subsidy is so low, that no price increasing effects are expected.

4.8 Conclusions

In this chapter a picture is drawn of the distributional effects of housing subsidies in Flanders, the northern region of Belgium. With regard to the owner-occupied sector the impact of several tax expenditure measures is explored, whereas in the rental sector the focus was set on subsidies related to social housing and housing allowances. Every government policy measure that yields a decrease of the consumption or production cost of housing in an explicit or implicit way was regarded as a housing subsidy. In order to calculate the subsidy levels, the actual housing costs were compared with a benchmark cost, representing the cost under the hypothesis that the subsidy would not exist. In case of tax expenditure, we used the general tax system as a benchmark. Consequently, non-taxation of imputed rent or capital gains are

not defined as tax advantages. Contrary to most previous research on the topic, this study also focused on the impact of other tax advantages besides mortgage tax relief. Our analysis did not take account of renovation grants and subsidized loans. The impact of these subsidy schemes is expected to be limited compared to the impact of tax benefits and social housing, since incidence of these measures is low.

In the owner-occupied sector, the largest subsidy is the well-known mortgage tax relief. This tax advantage is among mortgagors positively related to the marginal tax rate and the loan amount, which results in a strong positive link with income. Since mortgagors are strongly overrepresented in the higher income groups, the two lowest quintiles only receive a small percentage of the total subsidy amount. Since 2005, the discussed mortgage tax relief system is replaced by a tax deduction with a fixed amount for new mortgagors. Within this new system, the link between tax advantage and loan amount is absent. However, due to taxation at a marginal tax rate, the benefits will still be larger for higher income mortgagors.

Also the reduction of VAT for renovation is larger for the higher incomes in the owner-occupied sector, which is a consequence of the higher renovation costs in this group. Regarding the reduction of the transfer tax and imputed tax, the role of the 'modest dwelling' condition is crucial. Since modest dwellings – with a relatively low imputed rent – are overrepresented among the poorer homeowners, the tax advantages are to a lesser extent directed at the higher incomes. On the whole, only 10% of all tax advantages are received by the lowest 20% incomes in society, whereas about 73% is received by the 40% highest incomes. This outcome is to a large extent caused by the overrepresentation of high incomes in owner-occupation, but also by the mechanism at stake: the positive correlation of income with the marginal tax rate, the loan amount and the renovation costs.

In the earlier Flemish study of Doms et al (2001), no income effects were discovered concerning VAT on renovation, transfer and imputed rent tax, simply because the applied 'typical case' method did not allow for discovering such effects. Therefore, our results stress the merit of an analysis based on elaborate survey data. The Flemish Housing Survey offered us the necessary information about the distribution of dwelling value, renovation costs and modest dwellings over income groups. Moreover, our study stresses the relevance of exploring the effect of other tax advantages besides the often studied mortgage tax relief effect. The income effect of the three other tax measures on the user cost appears to be considerably. Added together, their subsidy is more than half of the subsidy involved in mortgage tax relief (when averaged over all homeowners).

With respect to the rental sector, the number of social tenants - about 141.000 in 2008 - is much higher than the monthly number of housing allowances (9210). The implicit subsidy in social housing is relatively high, being almost half of the theoretical market rent. As a consequence of the strict income conditions, the social housing subsidies are mainly received by the two bottom income quintiles. With regard to the housing allowances, two-thirds of the beneficiaries falls under the old system. The benefits are yet higher for beneficiaries of the

new system while the average actual rent does not differ between the recipients in the two systems. Almost the entire subsidy amount is received by families in the lowest income quintile. As for social housing, this outcome is caused by strict income admission criteria.

When all the subsidy schemes discussed are taken together, the two top quintiles on average benefit the most, whereas the third and fourth quintile have the lowest subsidy levels. Due to social housing, the average housing subsidy in the lowest quintile is relatively high. We do not find a large Matthew-effect, in contrast to the study of De Decker for 1995. The latter study did yet not make use of the user cost method and did not take other tax advantages into account besides mortgage tax relief. Overall, the average owner-occupier receives 29% more housing subsidy than the average tenant. The impact of the mortgage tax relief is found to be the strongest, followed by the impact of social housing. Further, the link between income and subsidy levels is opposite for both tenures. The homeowners in the top quintiles receive the most tax advantages, whereas high income tenants hardly benefit at all from housing subsidies. Since no measures are available for tenants that fall outside the admission scope of social housing and housing allowances, this group benefits the least.

The discussed policy measures have varying policy goals and do not always intend to redistribute wealth to lower income groups. Yet, it is interesting for policymakers to know in what way housing subsidization is distributed among income groups and which mechanisms lead to this distribution. We would advocate that policy makers should reflect on the outcome of this study in order to possibly reform the elements that lead to higher benefits for the top income groups.

Chapter 5

The Effect of Housing Expenses and Subsidies on the Income Distribution in Flanders and the Netherlands

Abstract
This chapter explores the role of housing expenses and subsidies regarding the income distribution in Flanders (northern part of Belgium) and the Netherlands in 2005 – 2006. It analyses income poverty and inequality, by comparing equivalent disposable income before and after housing expenses with a relative poverty threshold and the Gini coefficient. Poverty and income inequality increase in both 'countries' when equivalent disposable income is corrected for housing expenses. Furthermore the relative position of outright owners and social tenants regarding poverty improves. Housing subsidies play a (partly) different role in Flanders and the Netherlands. The implicit social rent subsidy in Flanders and the explicit housing allowance in the Netherlands yet serve the same goal: they both redistribute income relatively strongly in favour of the low income tenants. The tax relief system on the other hand increases income inequality in society, in both Flanders and the Netherlands, whereas our comparative analysis suggests that tax relief does not have a moderating effect on net housing expenses.

This chapter is based on the following article:

Heylen, K. & Haffner, M. (2012). The Effect of Housing Expenses and Subsidies on the Income Distribution in Flanders and the Netherlands. *Housing Studies, 27*(8), 1142-1161.

5.1 Introduction

National and regional governments need clear insight into the income distribution in their country or region. This not only provides policymakers with a current picture of income inequality, it can also help them to judge the effectiveness of the wealth redistribution policy, which normally operates via the tax and social system. Secondly, a clearer understanding of the size of the group living on and below the poverty line provides an idea of the relative prosperity at the lower end of the income ladder.

An often-used methodology of measuring the income distribution in society is based on the disposable income of households. Consistent is that the income distribution is expressed as the income that remains after deduction of tax and social insurance contributions and the addition of supplementary payments, such as child benefit. Such an approach delivers a picture of living standards based on income available for household expenditure on consumer goods and services.

When housing is at stake, the approach assumes that housing takes up such a large fixed part of disposable income that other consumption may be squeezed (Stone, 2006). Thus the disposable income after housing expenses is calculated, a concept which is called residual income, whereas the approach is called residual income approach.

Recent comparative studies that use the residual income approach have suggested that homeownership has an equalising effect on income inequality or income poverty. Both Ritakallio (2003) and Fahey et al (2004) analyzed disposable income before and after housing expenses. Based on a comparison between Australia and Finland, Ritakallio (2003) found evidence for the hypothesis that poverty is reduced in countries with high ownership rates (such as Australia) when income is corrected for housing. Fahey et al (2004) – who analyzed data for 14 European Union (EU) countries - came to mixed conclusions. They also found that the poverty level differences between the countries were narrowed, thus improving the relative position of the high homeownership countries. However, the study concludes by arguing that income effects of housing tenure are related to an interplay of more aspects than only the homeownership level and that they vary from country to country. Dewilde & Raeymaeckers (2008) relied upon a multilevel analysis of European Community Household Panel (ECHP) data for 15 EU member states, using a multidimensional poverty measure. Income poverty was measured by using a relative poverty line for income that was corrected for the housing expenses (after housing income). They found that - controlled for housing and pension policy - the level of homeownership only had a slight effect on old age poverty. Instead, the provision of social housing for elderly had the strongest poverty reducing effect.

In our study we intend to build upon the knowledge from previous research and explore the role of the housing subsidies in changing the income distribution. An international field of literature exists on the redistributive effects of social transfer policies (to name just a few

studies: Eurostat, 1990; Esping-Andersen, 1990; Atkinson, 2003; Atkinson et al, 2010). However, the aspect of housing subsidies is often overlooked in these studies.

We start by exploring the changes in the relative position in the income distribution of households in different tenures after correcting for the housing situation, by calculating the residual income. We will explore to what extent the relative position of the outright owners will improve, and to what extent the relative income position of social tenants towards private tenants will improve. Secondly, we will explore the inequality changes 'within' the different tenures after correcting disposable income for housing expenses. Thirdly, we will examine the effect of several housing subsidies on the income distribution, in terms of poverty and income inequality.

In the first part of this chapter, we rely on a relative poverty measure. Contrary to the earlier studies we explore systematically the mechanisms at stake that cause households to be income poor because of housing. This means that the effects of net household expenses are incorporated instead of gross housing expenses, giving room to the effects of different types of subsidies in renting and owning. Moreover, we refer to the relative size of the different groups and the distribution of housing expenses in order to explain the change in poverty (households in poverty) after taking housing expenses into account. Further, for analysing income inequality within the tenures, we rely on the Gini coefficient.

We begin by explaining why we opted for an approach based on 'after-housing-costs' or 'residual income'. We then discuss the application of the concepts of residual income and the indicators for poverty and income inequality. Next, the outcomes and conclusions are presented.

5.2 Definition of income poverty and income distribution after housing

Income poverty is a broad concept that embodies many dimensions of deprivation of households (e.g. Saunders et al, 2002). There is no agreement on what constitutes poverty, as poverty has a subjective dimension as well. Two basic definitions of poverty exist; an absolute one and a relative one. The absolute measures refer to the fulfilment of basic household needs. As these needs may differ between countries, we chose for a relative measure in our study. Such a benchmark measures the size of the group of households that relative to average or median living standards of a society is considered to be in poverty. In our choice we follow the poverty studies, such as those discussed above, that make use of the concept of disposable household income, the income that remains after taxation and social contributions and payments, which is being adapted for housing expenses when the residual income is calculated.

Such an approach may be chosen because authors either implicitly assume that this will be the only approach that can be followed or they argue about the advantages of the approach or they

accept that there is another approach which will be difficult to apply in their research context. The 'other' approach, that will be called the economic approach here, will follow the line where 'non-cash' income or 'in-kind' benefits e.g. income from housing, education, childcare and healthcare will be added to cash income (e.g. Frick & Grabka, 2003; Smeeding et al, 1993; Gardiner et al, 1995; Saunders & Siminski, 2005). Non-cash income arises for instance in the situation where any of these services are delivered free of charge to a (low-income) household. With this approach the costs of consumption are calculated rather than the cash flows (housing expenses) that are used to finance the consumption (Törmälehto & Sauli, 2010). For housing this would mean for tenants that rent their dwelling below market rent (if rents are regulated), that the advantage will be added to income. In such a way non-cash income is imputed to a household. Imputed income is not only about lower-than-market prices, however. In the case of owner-occupation it would be the rent that owner-occupiers would have to pay for their dwelling, if it were rented out, that will be added to their income (see also Van den Bosch, 1998; Chotikapanich et al, 2003; Gardiner et al, 1995; Whiteford & Kennedy, 1995).

As the imputed non-cash income is not available in our data bases and cannot readily be estimated (Mullin et al, 2009; Törmälehto & Sauli, 2010), we apply the residual income method which is based on what households actually spend on housing (Stone, 2006); thus how they finance their housing consumption. In this approach also called the 'after-housing-cost income' approach housing expenses are deducted from disposable income. The method is used in the UK (Atkinson, 1993; Johnson & Webb, 1992; DSS, 1993) and Australia (Harding & Szukalska, 2000; Harding *et al*, 2001) to measure poverty, but it is also used to measure income inequality (Ritakallio, 2003; Dewilde & Raeymaeckers, 2008). In the case of tenants, the rent is deducted from the disposable income, whereas mortgage interest and repayments are deducted from the disposable income of homeowners.

It will be clear that an expense approach to housing will deliver different results than an imputed income approach. There will be no imputed income added to disposable income for owner-occupiers. Neither will there be imputed income added for below-market-price delivery of housing consumption either for an owner-occupied or rental dwelling. Below-market-price delivery is another way of saying that the recipient is receiving an economic subsidy (Haffner & Oxley, 1999). As the after-housing-costs-income approach does not measure the price of housing consumption, it cannot be used to calculate economic subsidies. It can however be used to show government intervention that has effect on housing expenses. We will discuss these types of subsidies in the next section when we will have elaborated the components of housing expenses.

When using the residual income approach, one has to keep in mind certain other limitations which all go hand in hand with the fact that it is not measuring the price of housing consumption. First, it includes capital repayments of mortgages implying that the type of mortgage will impact on housing expenses (consider the effects of an interest-only mortgage with that of an annuity mortgage). Thus in an international comparative context, differences

regarding national mortgage financing patterns will have to be considered. This also applies to the degree to which people finance their dwelling purchase with a mortgage or with family resources. Also, the residual income approach does neither take into account possible capital gains or losses nor the risks of the investment. More generally, it does not take into account that households may use the potential income embodied in the equity in the dwelling. It does not take into account that households may be cash-income poor and non-cash income rich. Another concern is that the after-housing-costs-income method disregards the housing quality that is consumed. Certain families may choose to live in an oversized or luxury dwelling, undermining their non-housing consumption. These families will unduly be regarded as 'poor'. Contrary, some poor families may live in a dwelling that is too small or has bad quality, in order to safeguard their other consumption options. In more general terms, the residual income method assumes implicitly that housing expenses are exogenously determined, and that households do not have a free housing choice (Stone, 2006a; Haffner & Heylen, 2011). If one keeps in mind these limits of the residual income approach, it can be used; especially when the question is prominent whether residual income is considered sufficient high to pay for other consumption.

5.3 Methodology and data

Housing expenses and residual income

Before we can determine residual income we need to define disposable income. In this study disposable income is the average monthly household income that remains after deduction of tax and social insurance contributions and the addition of any income-replacement, supplementary social insurance benefits and welfare payments. The difference between disposable and residual income are the housing expenses, the cash flows that households need to generate in order to fund their housing consumption. Table 5.1 shows the different constituents of residual income: housing expenses, government support for housing, and disposable household income. In the rental sector gross housing expenses consist of the gross rent. The net rent is calculated by deducting any housing allowance. In the owner-occupier sector net housing expenses are determined by the mortgage burden, which consists of interest payments including tax relief, mortgage repayments and/or endowment premiums. To maximize comparability between the two tenures the extra costs that a landlord incorporates in the rent are included in the gross housing expenses of the owner-occupier.

Table 5.1 Composition of 'after-housing costs[a] income' for tenants and owner-occupiers[a]

Tenant		Owner-occupier	
Gross rent[b]		Gross housing expenses[c]	
-	Housing allowances	-	Fiscal effect
=	Net rent	=	Net housing expenses
Disposable income		Disposable income	
-	Net rent	-	Net housing expenses
=	Residual income	=	Residual income

[a] Technically this concept should be called 'after housing-expenses income', as it relates to expenses that are not necessarily economic costs, i.e. offers expressed in cash terms.

[b] Gross rent includes any costs that the landlord incorporates in the rent, such as maintenance, property tax, etc. Gross rent could be set lower than the market rent as a result of subsidy, rent regulation or acceptance of a loss (social landlord).

[c] Gross housing expenses include the amounts required to finance the dwelling, property tax and other homeowner expenses, such as insurance, ground lease and the owner's share of maintenance.

In order to facilitate comparisons between different types of households, disposable income and residual income were corrected for household size on the basis of the OECD equivalence scale. Though the OECD scale is basically designed for corrections to disposable household income, we used it also to correct residual income because there was no better alternative.

It is important to notice that in the correction for the housing situation we do not take account of the quality of the dwellings or the preferences of households. Hence, we cannot distinguish between families that have a relatively low residual income because they choose to spend a large part of their income on a dwelling and families who have a low residual income simply because they have a low disposable income. Nor can we ascertain e.g. whether families with the same composition enjoy different housing comfort in exchange for the same residual income (Gardiner et al, 1995; Ritakallio, 2003; Thalmann, 2003).

Housing subsidies

As discussed in Chapter 1, we define a subsidy to housing as any government intervention that lowers the level of housing expenses. The subsidy will be explicit if it is revealed by the residual income approach. This applies to the housing allowance for the rental market and the tax relief for the owner-occupiers, as Table 5.1 shows. Their effects will be explored in this study.

Implicit subsidies are the ones that lower housing expenses, but not explicitly. Examples of housing expenses that are lowered and in principle cannot be identified by the residual income approach are the extent to which regulated rents are (if they are) lower than market rents or the extent to which low-cost or subsidized mortgage interest rates are lower than market

interest rates. One can think of other instruments here, for instance reductions of transaction tax or VAT rates. In the residual income approach as applied here, these types of implicit subsidies will result in lower expenses –lower gross rent or lower housing expenses– but the extent to which the expenses will be lowered by each instrument cannot be shown with this approach. For a more detailed discussion of the housing subsidy concept, Chapter 1 can be addressed.

Income poverty and inequality

In our study the unit of analysis is the household, since this is most relevant in case of housing research. The poverty figures will hence be calculated for households by using the household income. We used the 50% norm for the poverty threshold which is applied in many poverty studies (Saunders et al, 2002; Harding et al, 2001). A household is classified as 'poor' when their equivalent household income is lower than 50% of the median equivalent household income. In our study two poverty lines will be calculated: one for disposable income and one for residual income. The household income is made equivalent by using the OECD equivalence scale. When incomes are made equivalent, they become comparable across different household types.

Income inequality was mapped out with the Gini coefficient, the most commonly used method for measuring income inequality. The Gini value lies between 0 and 1. In case of total equality the figure is 0 whereas 1 represents total inequality. The numerator of the Gini coefficient is the sum of all absolute values of the income differences of each household with the other households, divided by two. Further, this value is divided by the average income.[2] The Gini value remains the same whenever an income is multiplied by a constant value and is thus scale-independent (Allison, 1978). We concentrate on the inequality within groups to getter a better understanding of the effect of housing subsidies.

Databases

We used the Housing Survey 2005 of the *Kenniscentrum voor Duurzaam Woonbeleid* (knowledge centre for sustainable housing policy) to calculate the distribution and poverty measures for Flanders. This survey covers 5216 Flemish households. For the Netherlands we used the WoON 2006 Housing Survey, conducted by the Department of Housing. About 64.000 households were interviewed, approximately 54.000 of whom lived in independent units[ii]. The income data from the Dutch tax records for 2005 were linked to the survey data. In the Flemish housing Survey the income data was gathered by the survey itself. Hence, the two methods are not comparable. It is not an ideal basis for a comparison, but no other options were available.

5.4 Results: relative income position

Income poverty after net housing expenses

Table 5.2 shows the poverty levels in Flanders and The Netherlands before and after deduction of gross and net housing expenses, for a poverty threshold set at 50% of the median equivalent income. This implies a different poverty line for disposable income before housing expenses than for disposable income after housing expenses. Also, the relative changes in poverty level after correcting for housing are presented. In this first section we will concentrate on the final outcome, which are the results after correcting for net housing expenses which are shown in the Columns (4) and (5) in Table 5.2. In the next section the effects of the housing subsidies will be discussed.

In line with earlier findings for Flanders (Van Dam et al, 2003), the poverty rate increases both in Flanders (+73%) and The Netherlands (+68%) as can be seen in Column (5) after correcting for net housing expenses, to a level of respectively 9,8% and 14,9%, as Column (4) shows. This finding is also in line with the results of Fahey (2004), who found a poverty increase after correcting for housing in all EU countries, except for Ireland. The explanation for the increase is that housing expenses have a relatively higher weight for low income than for high income households. In both 'countries' the average housing expenses-to-income ratio is higher for the lower income groups (Haffner et al, 2008; Heylen et al, 2007; Stephens et al, 2010).

The poverty rate 'after housing' for outright owners relatively improves in both Flanders (-24%) and the Netherlands (-15%). Thus, in line with our hypothesis, the housing correction to disposable income improves the relative position of the outright owners in the income distribution.

In Flanders, after correcting for housing, the poverty level in both rental sectors is at the same level (21,2%). The poverty increase in the social rental sector (+95%) is less outspoken than in the private rental sector (+168%). So, for Flanders the hypothesis stating that the relative position of social tenants compared to private tenants will improve, is confirmed. In the Netherlands this also applies, but to a lesser extent. After the net housing expense correction, the relative poverty position of social tenants (+45%) has increased less than that of private tenants (+63%). The resulting income poverty rates are close together but, contrary to Flanders, the group in poverty is bigger for social tenants (23,4%) than for private tenants (21%). This tenure difference is caused by differences regarding equivalent disposable income, which on average amounts to 1204 euros per month for social tenants and 1472 euros per month for private tenants (amounts are not in Table 5.2). This is a difference of more than 250 euros that disposable income of social tenants on average is lower than of private tenants, while social rents on average are only more than 100 euros per month lower than the private rent, resulting in a bigger group of social tenants in poverty than private tenants in the Netherlands.

In both Flanders and the Netherlands the relative increase in poverty is the highest for the homeowners with a mortgage, with respectively 289% and 206%. This is a logic result since the average housing expenses for mortgagors are substantially higher than for tenants and outright owners. The average gross housing expenses for homeowners with a mortgage are on average 549 and 847 euros in respectively Flanders and the Netherlands, whereas the average rent is about 400 euros in both 'countries' (amounts are not in Table 5.2, but can be inferred from Tables 5.3 and 5.4).

Furthermore, the relative size of the group outright owners in Flanders has a strong impact on the overall poverty change as it amounts to more than 40% of all Flemish households, whereas it is not include more than 8% in the Netherlands. As a consequence, the overall poverty rate in Flanders does not increase sharply, despite a high increase of the poverty rate for the mortgagors and the tenants. Regardless of a lower increase of the poverty rate for tenants and mortgagors in the Netherlands, the overall rise in poverty is almost as high as in Flanders (68% versus 73%). These results suggest a refinement of the conclusion of Fahey et al (2004), which stated that a housing correction to disposable income narrows the poverty level differences between countries in favour of the high ownership countries. Instead, our analysis puts forward that a high level of 'outright homeownership' has a moderating effect on the increase of the poverty rate after the deduction of housing expenses from disposable income. Now that we have outlined the overall picture on income poverty per tenure in both 'countries', the role of the subsidies need to be analyzed.

Table 5.2 Households in poverty (in %), according to tenure for equivalent income before and after gross and net (equivalent) housing expenses, Flanders/The Netherlands, 2005/2006

	% in poverty based on disposable income (1)	% in poverty after gross housing expenses (2)	% difference Columns (2) and (1)	% in poverty after net housing expenses (4)	% difference Columns (4) and (1) [a]
Flanders					
Total households	5.7	9.7	+72	9.8	+73 (+1)
Rental sector	8.4	20.7	+146	21.2	+148 *(*+2)
Private	7.8	20.8	+166	21.2	+168 (+2)
Social	10.6	20.1	+90	21.2	+95 (+5)
Owner-occupier sector	4.6	5.6	+22	5.5	+20 (-2)
Mortgagor	1.4	5.5	+293	5.3	+289 (-4)
Outright owner	7.2	5.6	-24	5.6	-24 (0)
The Netherlands					
Total households	9.5	17.3	+82	14.9	+68 (-14)
Rental sector	16.6	27.0	+63	22.9	+48 (-15)
Private	13.0	21.5	+65	21.0	+63 (-2)
Social	17.5	28.5	+63	23.4	+45 (-18)
Owner-occupier sector	3.9	9.6	+146	8.6	+136 (-10)
Mortgagor	3.2	10.2	+219	8.9	+206 (-13)
Outright owner	8.9	5.5	-38	6.8	-15 (+24)

Sources: Flemish Housing Survey 2005, WoON 2006/ TU Delft calculations

Note: the Flemish data are based on a sample of 5.216 households, whereas the Dutch income data are drawn from an administrative source (tax authorities) and are not subject to non response. The non-response in the Flemish survey was 33%.

[a] Between parentheses: the relative difference between the 'after net housing' and 'after gross housing' poverty rate. % difference between Columns (4) and (2)

Effects of housing allowance, tax relief and rent regulation

Another aim of the study was to explore the effect of different subsidies on the relative income position of households in the different tenures. A comparison of the poverty level after gross and after net housing expenses allows us to evaluate the effect of the housing

allowance for tenants and the tax relief for mortgagors. Since this approach - to our knowledge – is new in the study field, no hypotheses were drawn. In table 5.2 the percentage between parentheses in Column (5) represents the relative difference in poverty rate between the 'after gross' and 'after net' housing expenses income. It represents the effect of the housing allowance in the rental sector and the tax relief in the owner-occupied sector.

The tax relief for homeowners with a mortgage in both 'countries' has a significant impact. All mortgagors in Flanders and the Netherlands benefit from the system. In Flanders the average fiscal effect is 81 euros per month. Table 5.2 shows that the poverty level for mortgagors decreases by 4 percent after taking tax relief into account. Thus, tax relief in Flanders slightly improves the relative income position of mortgagors. This also applies to the Netherlands, but the impact of the tax relief is bigger than in Flanders. The average tax relief for mortgagors amounts to 200 euros per month (as can be inferred from Table 5.4), whereas the share of mortgagors in the housing market is larger than in Flanders. The poverty rate for mortgagors decreases with 13 percent as a result of the tax advantage (Table 5.2). For outright owners on the other hand, the poverty rate increases (+24%) as a consequence of the higher poverty line. For income after gross housing expenses the poverty line is 598 euros, while it is 635 euros after net housing expenses.

In the rental sector the explicit subsidy is the housing allowances. In Flanders, the group receiving housing allowances is so limited that it has no impact on the relative position of tenants in the income distribution. According to a recent survey only 2% of tenants receive an allowance (Heylen et al, 2007). Thus, the small poverty increase for tenants (+2%) after correcting for subsidies is due to the change of the poverty line. For income after net housing the poverty line is 549 euros, while it is 544 euros after gross housing expenses. In the Netherlands the impact of the housing allowance is more substantive. One out of three tenants receives an allowance, while when averaged over all tenants the average amounts to 53 and 22 euros for respectively the social and private rental sector (as can be inferred from Table 5.4). The effect on the poverty rate is primarily concentrated in the social rented sector (-18%; Table 5.2), which is a consequence of the income boundaries of the system. The subsidy improves the relative position of the social tenants compared to the tenants in the private sector. For the latter group the poverty decrease due to housing allowances is only two percent.

On the difference between social rents and private rents, an observation based on Table 5.2 is that the poverty rate based on disposable income (before housing; Column (1)) is higher for social tenants than for private tenants in both 'countries'. In Flanders this situation changes when gross rents are taken into account (Column (2)): the poverty rate in social renting (20,1) is slightly lower than in private renting (20,8). As discussed in the previous section, the Flemish social landlords receive substantive object subsidies, which are used to set rents below the market rents. The average gross rent in the social rental sector is only 261 euros, compared to 435 euros in the private sector (as can be inferred from Table 5.3).

As in the Netherlands rent regulation applies to most rental dwellings and not to social rental dwellings only. This implies that increase in poverty is almost equal for both types of tenants. The poverty position of social tenants (+63%) after taking gross rent into account (Column (3)) is only slightly more improved compared to private tenants (+65%). Social tenants are still more often in poverty (28,5%) than private tenants (21,5%; Column (2)). The difference in implicit subsidy as a result of object subsidization is thus not large. As was argued above, the on average lower income of social tenants causes the outcome, which is changed in favour of social tenants largely because of the housing allowances.

5.5 Results: income inequality within the tenures

The results of the previous section give us an idea of the changes of the relative income position of the different tenures. In this section we address the following question: what is the effect of housing subsidies on the income distribution 'within' the tenures?

Table 5.3 shows the housing expenses and subsidies split according to housing market sector and income thirds in Flanders. The thirds were calculated separately for each sector on the basis of equivalent disposable income. Furthermore, the table shows the Gini coefficient for disposable income before and after housing expenses for different tenure types. The coefficients are calculated for the deduction of both net and gross housing expenses, in order to evaluate the effect of the subsidy systems. A rise of the Gini coefficient indicates an increase in inequality, while a fall in the Gini coefficient indicates a decrease in inequality. As can be expected from the results on changes in poverty discussed above, inequality will rise when the step is taken from equivalent disposable income to the after gross housing expenses income. As the step is taken from income after gross housing expenses to income after net housing expenses, inequality will increase, remain constant or will decrease. The direction of the move will be interpreted as a result of whether there is government intervention affecting the housing expenses of households. The total effect of the difference between disposable income and income after net housing expenses is the sum of both of these effects. As Tables 5.3 and 5.4 show for both 'countries', this overall effect remains for all tenures one of increased inequality when disposable income is corrected for housing subsidies.

The table shows that in Flanders the housing allowance is only received by private tenants in the lowest third, whereas in the social rental sector beneficiaries are also found in the highest third. This is a consequence of the lower income profile of the social tenants. The effect of the housing allowance on the Gini coefficient for the rental sector is – logically given the limited scope of the system – very small. The Gini score falls with respectively 0,3 and 0,5 percent for respectively the private and social rental sector after subtraction of the housing subsidy from gross rent. Overall, the Gini score for the rental sector rises with 27% if the disposable income is compared with the income after net housing expenses. This means that the rent is relatively higher for the lower income households than for the higher income households on

the rental market. As rent in the social sector is determined by income, the rise is more limited for social tenants (22%) than for private tenants (33%).

In Flanders the scope of the tax relief for mortgagors is bigger than the scope of the housing allowance. The tax benefit increases considerably between the thirds in absolute terms (see Table 5.3). Higher-income groups profit more from tax relief because they tend to buy or build more expensive dwellings. As mentioned earlier, until 2005, the level of tax relief was positively related to the size of the mortgage. Moreover, it is positively related to the marginal tax rate, which, of course, rises in accordance with taxable income.

The redistributive effect of tax relief is yet limited (-0,8%), since in relative terms the tax relief remains relatively even in relation to disposable income. The equivalent tax benefit amounts to, on average, 3,2%, 3,1% and 2,8% of the equivalent disposable income in the first, second and highest third respectively (percentages not in table). A feature of the Gini coefficient – and any good inequality measure - is that it remains the same when all incomes are multiplied by the same factor (Allison, 1978). Equal to the situation for the rental market, the income inequality substantively rises when disposable income is corrected for net housing expenses (+17%), indicating that the housing expenses are a relatively heavier burden for the lower income mortgagors.

The outright owners do not benefit from any subsidies. The Gini coefficient for this tenure increases by 7% after correcting for net housing expenses, as a result of the relatively high maintenance costs for the lower incomes in this group. The overall rise in inequality in Flanders ‘after net housing’ is 12%, whereas the overall impact of the subsidies is slightly positive (+0,4%). When the effect of the subsidies is calculated separately, we find that this slight increase is almost fully caused by the effect of the tax relief. As explained, the effect of the housing allowance is marginal. The tax relief increases the overall income inequality since the mortgagors generally belong to the higher income groups.

Table 5.3 Housing expenses, subsidies and income inequality before and after gross and net housing expenses, according to tenure and thirds of equivalent income*, averages in euros per month, Flanders, 2005

	Gross housing expenses	Housing allowances/ tax relief [a]	Net rent or expenses	Gini coefficient [b]		
				Equivalent disposable income	After gross housing	After net housing
All households				0.242	0.270 +12%	0.271 +12% (+0.4%)
Rental sector				0.232	0.295 +27%	0.294 +27% (-0.3%)
Private rent				0.230	0.305 +33%	0.304 +33% (-0.3%)
1st	384	-3	381			
2	427	0	427			
3rd	493	0	493			
Social rent				0.172	0.210 +22%	0.209 +22% (-0.5%)
1st	220	-2	218			
2	255	-2	253			
3rd	308	-1	307			
Owner-occupier sector				0.241	0.252 +5%	0.252 +5%
Mortgagors				0.195	0.228 +17%	0.226 +17% (-0.8%)
1st	493	-61 (*32*)	432			
2	538	-80 (*45*)	458			
3rd	608	-100 (*60*)	508			
Outright owners				0.259	0.276 +7%	0.276 +7% (+0)
1st	96	0	96			
2	74	0	74			
3rd	99	0	99			

Source: Housing Survey 2005; N all households=3821

*first third=33% lowest incomes; third 'third'=33% highest incomes

[a] Equivalent amounts for housing allowance and fiscal effect.

[b] Between parentheses: the relative difference between the 'after net housing' and 'after gross housing' Gini coefficient.

Table 5.4 is the Dutch equivalent of Table 5.3 for Flanders. The income inequality increases more in the Netherlands than in Flanders when income is corrected for net housing. The Gini coefficient rises from 26,5% to 31,7%, implying a relative increase of 20%. The overall impact of the explicit housing subsidies is negative (-4%). When the effect of the subsidies is calculated separately, we find that this slight decrease in inequality is caused by the effect of the housing allowances and to a lesser extent by the tax relief.

Opposed to Flanders, the housing allowance system has a clear vertically redistributive effect towards the lower incomes. For the rental sector in total, the Gini score falls by 14% due to the allowance. The inequality decrease is higher for the social than for the private rental sector (-17% versus -6%) as there are relatively more beneficiaries of housing allowances in the social sector as a result of their lower income profile than in the private rental sector. Hence, the average allowance is higher for social tenants. That the amount received decreases with income, both for tenants in the social and private rental sector also contributes.

Furthermore, the deduction of net housing expenses from disposable income increases the Gini coefficient for the rental sector by 17%. As in Flanders, the weight of the net rent is thus relatively higher for lower income tenants. Because of the strong impact of the housing allowance for social tenants, inequality rises to a lesser degree for social tenants (17%) than for private tenants (21%).

The tax benefits for mortgagors strongly increase with income in absolute terms. In the first third the benefit is on average 116 euros, whereas it amounts to 294 euros in the highest third (Table 5.4). Again, as in Flanders, the tax relief does not enhance inequality among the mortgagors but makes the Gini score fall by 4%. The equivalent tax benefit is, on average, 5,8% of the equivalent disposable income in the lowest third, compared with 6,9% in the highest third (not shown in table). In a previous article on the topic, this made us conclude that there was probably an increasing effect on inequality (Haffner & Heylen, 2009). These new results make clear that – when all incomes are included in the analysis – inequality measured by the Gini coefficient slightly decreases due to tax relief. However, as mortgagors are overrepresented in the higher-income groups, the tax relief still enhances general income inequality.

In the owner-occupier sector the strongest increase in inequality after correcting for net housing expenses occurs among the mortgagors (26%). Outright homeowners face only a limited increase in inequality (6%) because they no longer have a mortgage to pay. Given that this group is fairly limited in the Netherlands with very little variation across the thirds, the increase in inequality among all owner-occupiers is still considerable at 23%.

In sum, the main differences with regard to the subsidy systems between the Netherlands and Flanders lie in the rental sectors as in both ‘countries’ the tax relief somewhat decreases income inequality among mortgagors.

Table 5.4 Housing expenses, subsidies and income inequality before and after housing expenses, according to tenure and thirds of equivalent income, averages in euros per month, the Netherlands, 2006

	Gross housing expenses	Housing allowances/ tax relief [b]	Net rent or expenses	Gini coefficient [c]		
				Equivalent disposable income	After gross housing	After net housing
All households				0.265	0.328	0.317
					+24%	+20%
						(-4%)
Rental sector				0.225	0.295	0.264
					+31%	+17%
						(-14%)
Private rent				0.268	0.339	0.324
1	395	-51 (*40*)	344		+27%	+21%
2	438	-15 (*12*)	423			(-6%)
3	573	-1 (*1*)	572			
Social rent				0.206	0.277	0.242
1	380	-107 (*81*)	273		+34%	+17%
2	396	-46 (35)	350			(-17%)
3	414	-4 (3)	410			
Owner-occupier sector				0.253	0.318	0.310
					+26%	+23%
						(-3%)
Mortgagors				0.240	0.311	0.302
1	705	-116 (*65*)	589		+30%	+26%
2	810	-189 (*115*)	621			(-4%)
3	1025	-294 (*193*)	731			
Outright owners [a]				0.328	0.346	0.348
1	112	7			+5%	+6%
2	128	9				(+1%)
3	168	4	171			

Source: WoON 2006/ TU Delft calculations; total households (weighted): 6.800.576

[a] Households which have just paid of the mortgage; so a tax relief is still noted by the tax authorities.

[b] Equivalent amounts for housing allowance and fiscal effect.

[c] Between parentheses: the relative difference between the 'after net housing' and 'after gross housing' Gini coefficient.

5.6 Conclusions

Analyses of poverty and income inequality which apply disposable income, a relatively standard measure for the living standards of a population, generally ignored the fact that the consumption options, and hence the living standard of families, are also influenced by the housing situation. Nowadays, studies aim to fill this gap. This study especially focuses on the effects of housing subsidies in terms of poverty and income inequality, a topic that has not yet been well researched. Such an approach allows for a clearer comparison of the different sectors in the housing market and enables a more complete comparison regarding income distribution and tenure between countries.

Two approaches allow for studying income poverty and inequality. One focuses on actual cash flows needed to finance housing consumption. More specifically it is the after-housing-costs-income approach or residual income approach for which housing expenses are deducted from disposable income to calculate after-housing-costs or residual income. That is the approach used in this study, as the second approach is not readily applicable in existing databases. It can be called the economic approach and it includes estimates of non-cash income in the disposable income of households. In housing non-cash income will be concerned with imputed income of owner-occupiers which is attributed to the equity embodied in their dwelling and imputed income from housing provided against lower-than-market prices. In both cases it is about the price of housing consumption that needs to be taken into account. In the case of renting the lower-than-market price will be relevant if there is rent control.

When applying the residual income approach, it is clear that it will not shed light on the price of housing consumption, but on the financing of –the expenses to pay for– housing consumption. An aspect that therefore cannot be taken into account here is the situation of households that may be poor in income, but not poor in housing. Or stated differently, if owner-occupiers have insufficient residual income available for other consumption than housing, the situation will more than likely be less serious than if tenants have insufficient residual income available for other consumption. Owner-occupiers in due course may be able to transform the equity stored in the dwelling, while tenants will not have that option available.

Two issues were examined. First, we explored the changes in the relative position in the income distribution of the different tenures after correcting for the housing situation. Following previous research we expected the relative position of the outright owners and social tenants to improve. A relative poverty rate was used to evaluate the change in the income distribution. Second, we focused on the inequality changes ‘within’ the different tenures after correcting for housing, using the Gini coefficient. In both parts of the study, we focused on clarifying the role of the subsidies in the relative changes, as the effects of ‘abnormal’ levels of housing quality consumed –either overconsumption or underconsumption– could not be corrected for.

After correcting for net housing expenses the poverty level in both Flanders and the Netherlands rose significantly. According to our expectation the relative position of outright owners in the income distribution improved in both countries, whereas the position of the mortgagors strongly worsened. Further, the relatively large sector of outright owners in Flanders was shown to have a moderating effect on the poverty rise after the housing correction.

Also in line with our expectation, the income position of social tenants towards private tenants improved after deduction of net housing expenses. Due to the larger implicit subsidies for social housing in Flanders, this effect is much stronger in Flanders than in the Netherlands. In both 'countries' an initial poverty gap exists between the social and private rental sector as a consequence of the low income profile of social tenants. In Flanders, this gap is closed by the strongly subsidized social rent. In the Netherlands social housing only narrows this gap a little. Instead, the gap is strongly narrowed by the housing allowance system. Due to the income boundaries, low income households benefit to a greater extent from the system than higher income households. In Flanders the housing allowance system is too limited to affect the income distribution. Thus, although both 'countries' focus on different policy instruments, the final outcome regarding poverty reduction in the rental sector is surprisingly equal.

Next to the effect of the housing allowance we also explored the effect of the tax relief for mortgages. Due to different characteristics of the fiscal system, the positive effect of the tax relief on the relative position of the mortgagors is much stronger in the Netherlands than in Flanders. In the Dutch system all interest is tax deductible without upper ceilings. In Flanders the deductible amount is smaller, due to some built-in upper limits. The generous system in the Netherlands seems, however, less efficient than the Flemish system. On average, net housing expenses – i.e. after the deduction of tax relief – in the Netherlands are 200 euros more than in Flanders. The tax relief system enables aspiring homeowners to take out larger mortgages, but it does seem to have pushed up property prices at the same time and hence increased the payment burden. The average price of a dwelling in 2005 was, to all intents and purposes, higher in the Netherlands (223.000 euros) than in Flanders (162.400 euros) (Heylen & Haffner, 2008). These 'high' property prices in the Netherlands are maintained by inelasticity in the supply when prices rise and exacerbate the housing shortage.

The change of income inequality within tenures as a result of taking housing expenses into consideration shows that only in the Netherlands the housing allowances decrease the inequality. The mortgage tax relief, on the other hand, is positively related to income in both countries. However, the tax relief does not strongly affect inequality among mortgagors as it does not increase with income in a relative way. Since mortgagors are overrepresented among the higher income groups, the overall effect is still that tax relief increases inequality.

In sum, poverty and income inequality increase considerably in both 'countries' when equivalent income is corrected for gross housing expenses. These increases imply that housing expenses place a heavier burden on the budget of lower-income groups than higher

income groups. Due to the housing subsidies this situation is to some extent corrected. We saw a strongly vertically redistributive effect of the bricks-and-mortar subsidy for social renting (Flanders) and the housing allowance (the Netherlands), which serve an equal goal: improving the income position of low income tenants. Mortgage tax relief on the other hand increases income inequality in society, in both Flanders and the Netherlands, whereas our comparative analysis suggests that tax relief does not have a moderating effect on net housing expenses. In the end, taking net housing expenses into account increases income inequality, even if there is some subsidization that lowers the initial increase in inequality after taking gross housing expenses into account.

Overall, we can conclude that the residual income approach combined with an analysis of the relevant subsidies enables an in-depth comparison of the income distribution between countries and enhances the understanding of the redistributive mechanisms of the housing subsidies taking the limits of the approach into account.

Chapter 6

Conclusion

In this final chapter, first, a short overview is presented of the research design. Then, the main results of the study are discussed within our theoretical framework, while drawing overall conclusions. Third, we present a policy discussion of the results, including the more recent policy changes. Finally, we discuss methodological issues and put forward future research on the topic.

6.1 Research design

In this study we carried out an analysis of housing affordability and the impact of housing subsidies in terms of vertical equity, while comparing Flanders to the Netherlands. These two cases are interesting for a comparative analysis since the tenure structure of the housing market and the housing subsidy measures largely differ, as a result of different policy choices in the past. The year of our analysis was 2005 (partly 2008) for Flanders and 2006 for the Netherlands.

In this final chapter overall conclusions are drawn, while answering the following research questions:

- What is the situation in Flanders and the Netherlands in terms of housing affordability, according to income groups and tenure?
- What is the distributional effect of the current housing subsidies? Which mechanisms lead to these outcomes?
- To what extent do the housing subsidies reach the income groups and tenure for whom affordability is most problematic? What are the differences between Flanders and the Netherlands?

In both parts of the study a cash flow (short-term) and user cost (long-term) approach was applied, as Table 6.1 clarifies. The combination of these analyses offer a clear insight into the mechanisms and outcomes of housing policy with respect to affordable housing. The subsidies are also briefly discussed in the affordability analysis since they affect the affordability outcome. However, when an analysis focuses on affordability indicators, it does not allow for an in-depth exploration of the subsidy mechanisms. Therefore, both parts of the study complement each other.

In three of the four research chapters, Flanders is compared to the Netherlands. In the third chapter, only the distributive impact of housing subsidies in Flanders is addressed. In this summary these Flemish results will be compared to Dutch figures from a recent study about the distribution of housing subsidies in the Netherlands (Haffner & Heylen, 2014).

Table 6.1 Research design for analyzing housing affordability and the impact of housing subsidies

Method	*Affordability*	*Subsidy impact*
User cost (long-term)	Chapter 2	Chapter 4
Cash flow (short-term)	Chapter 3	Chapter 5

With regard to the analysis of the rental sector, we rely on Kemeny's typology of rental systems (2001), discussed in Chapter 1. Flanders can be classified as a dualist rental system, whereas the Netherlands is categorized as having a unitary (or integrated) rental system (Hoekstra, 2009). In a dual rental market social housing is strongly regulated and includes significantly lower rents than in the private rental sector. Moreover, the social housing sector tends to be small and functions as a safety net for lower income groups. In a unitary rental market there is competition between the two rental sectors, entailing a smaller rent difference and a smaller income gap between private and social renting. The social (or non-profit) housing sector is larger than in a dualist system and also includes middle and high incomes households. Rent is subsided to a lesser extent than in a dualist rental system.

The traditional approach for analyzing *affordability* is a cash flow analysis of housing consumption that focuses on the access to housing in the short run. In this approach, housing expenses and disposable income are analyzed together, in a relative (ratio) or absolute way (residual income). In the rental sector, rent payments are analysed whereas the mortgage payment is the central concept for homeowners. The following definition of affordability (in the short run) is often referred to:

> 'Affordability' is concerned with securing some given standard of housing (or different standards) at a price or a rent which does not impose, in the eyes of some third party (usually government) an unreasonable burden on household incomes (Maclennan & Williams, 1990; Freeman et al., 2000; Hancock, 1993, p. 129; Whitehead, 1991).

As the definition clarifies, norms can be used to distinguish the households that encounter a problem of affordability. In our study, we applied the commonly used 30%-ratio and a norm for residual income that allows households to have a decent level of non-housing consumption. Chapter 2 pointed out that the two approaches relate in a different way to the lower incomes groups. We concluded that the budget approach is preferable, because it is methodologically superior and because it is more precise than the ratio approach in signaling which households have problems with financing their non-housing expenses. Therefore, in this final chapter we focus more on the results according to the budget approach.

Affordability can also be analyzed in the long run by applying the user cost concept to housing. A long-term analysis focuses on the cost of housing consumption, which is possibly

different from the financing of housing consumption in the short-term. In the user cost approach, the opportunity cost of owner's equity and the capital gains (or losses) are also included in the cost of housing (Hancock, 1993; Quigley & Raphael, 2004).

We defined *housing subsidies* as all government interventions that lower the cost of the consumption or production of housing. In the cash flow analysis only the so-called explicit subsidies were detectable. In the user cost analysis (long-term) also implicit subsidies could be analyzed. Implicit subsidies are government measures that lower the cost of housing, but that are not detectable in a cash flow analysis of housing expenses. Also one-off benefits can be included in a user cost approach, by assessing their impact over time in terms of (lowering the) user cost of housing.

In the user cost approach, the actual user cost is compared to a theoretical cost for determining the level of the subsidy. In order to define the level of the fiscal subsidies a tax benchmark needs to be chosen against which the actual tax treatment is compared. We opted for the 'primary tax structure' as a benchmark, meaning that we regard the governmentally defined tax expenditures as tax subsidies. In the user cost analysis, the focus is set on the level and distribution of subsidies over incomes groups, whereas in the cash flow analysis the subsidies are related to income, by exploring the impact on poverty and income inequality.

The analyses in this study were carried out on Flemish survey data for 2005 (*Woonsurvey*) and administrative data on subsidy measures for 2008, whereas the Dutch results are based on survey data for 2006 (*WoON*).

6.2 Summary of the main findings

In this summary of the results we start with a description of the income differences according to tenure, as they are crucial in explaining the affordability outcomes. Secondly, the main results of the affordability analysis will be discussed. Thirdly, we focus on the distributional impact of the housing subsidies.

6.2.1 Income distribution by tenure

As a consequence of different policy choices in the past, the structure of the housing market strongly differs between Flanders and the Netherlands. This includes a different size of housing sectors, but also – which is related to this - a different income distribution by tenure. In Flanders, in 2005, the level of owner-occupation is relatively high (74%), whereas the social rented sector is small (6%). In the Netherlands, in 2006, a high share of social housing (35%) exists together with a moderate share of owner-occupiers (56%) and a relatively small private rented sector (9%).

We found that not only the income difference between owner-occupiers and tenants is bigger in Flanders, but also the income gap between tenants in the private and social rented sector. In Flemish social housing, due to relatively low income admission limits, 85% of households belong to the 40% lowest incomes in society, which is in line with Kemeny's rental system typology. It is clear that social housing in Flanders functions as a safety net for low income groups. Also in the Netherlands social tenants are overrepresented among the lower income groups, but to a lesser extent.

We calculated that income inequality is considerably smaller in the social than in the private rented sector, in both our cases, which is a consequence of the targeting of lower incomes in social housing. Due to the stricter admission criteria in Flanders, income inequality among social tenants is yet substantially lower than in the Netherlands. The relatively high income inequality in the Dutch social rented sector is in accordance with the assumed unitary rental market in the Netherlands, in which both subsectors attract broad layers of the population.

When disposable income is corrected for net housing expenses, income inequality (measured by the Gini coefficient) strongly rises in Flanders as well as the Netherlands. Moreover, it rises within every housing sector. These results are due to the fact that housing expenses have a larger impact on the budget for lower than for higher incomes. The overall inequality rise is lower in Flanders because of its high share of outright owners (40%), compared to the Netherlands (8%). Since the Flemish outright owners are overrepresented in the lower income groups, they have a moderating effect on the overall increase of inequality.

6.2.2 Affordability of housing

Cash flow method (short-term analysis)

In general, the problem of unaffordable housing in terms of residual income is limited to about 14% of households, in both Flanders and the Netherlands. The 'problem group' is overrepresented on the rental market and among lower incomes, and especially among low income tenants.

With regard to the *rental market*, rent was analyzed in relation to disposable income. We found that in the (strongly subsidized) Flemish social rented sector the rents are considerably lower than in the private market. This difference is strongly determined by the implicit subsidy for social tenants, since the average number of rooms does not differ between the two rental markets. Moreover, in Flanders, according to different indicators social housing offers a higher quality of housing than the private rental market (Heylen et al, 2007). Due to a weaker income profile, social tenants in general have a lower income left after paying for housing than private tenants. As a consequence, in Flanders, the share of tenants that fall below the standard for residual income (RI-norm) is higher in the social than in the private rented sector, with respectively 39% and 27%.

In the Netherlands, accordingly to its unitary rental system, the difference in gross rent between the social and private rented sector is smaller than in Flanders. The housing allowance – which is targeted at the lower incomes – increases this rent gap, since social tenants (which tend to be poorer) receive it to a larger extent. Still, the net rent difference between the rental subsectors is a lot bigger in Flanders. Contrary to the Flemish situation, in the Netherlands, the share of tenants in the social and private rental sector falling below the RI-norm is almost equal (22% and 20%). This outcome is in line with the logic of a unitary rental system. If affordability in the social rented sector would be a much bigger problem than in the private sector, the latter – with its higher rents – would not be able to compete for the tenants that are entitled to social housing. The figures also indicate that unaffordable housing is – according to the budget approach – less of a problem in the Netherlands than in Flanders.

In the *owner-occupied sector* the mortgage capital and interest payments are the housing expenses in the short term. The gross housing expenses of mortgagors are on average considerably higher in the Netherlands than in Flanders. The fiscal effect of mortgage tax deduction was found to be three times bigger in the Netherlands, in terms of expenses. This is a result of the full tax deductibility of mortgage interest in the Netherlands, whereas this deduction is limited in Flanders. In spite of the huge difference in fiscal effect, the net housing expenses of mortgagors are at the same level in both 'countries'. This can be explained by the fact that demand subsidization such as mortgage interest relief can be capitalized in higher prices. In the Netherlands both the fiscal effect and house prices were at a considerable higher level than in Flanders in the mid-2000s. Estimates for the Netherlands pointed at a 10-30% house price increase due to the extensive mortgage interest deduction and relatively inelastic supply (Conijn, 2008).

Housing expenses are generally higher for mortgagors than for tenants, but due to a stronger income-profile, mortgagors on average have more left after paying for housing, in both Flanders and the Netherlands. The share of mortgagors that fall below the RI-norm is considerably lower than for tenants, with rates of 11% for Flanders and 8% for the Netherlands. In both cases, the mortgagors belonging to the lowest income quintile are a problematic group, as about half of them fall below the RI-norm. Furthermore, about 24% of mortgagors pay more than 30% of income to housing, in both Flanders and the Netherlands. In both cases, this rate is even higher than for social tenants. However, as pointed out in chapter three, we rather rely on the budget method for assessing affordability problems.

Finally, in both Flanders and the Netherlands, the outright owners have the best outcome in terms of short term affordability. This group, with a strong overrepresentation of elderly, comprises 40% of households in Flanders but only 8% in the Netherlands. Homeownership in Flanders is already at a high level since decades. In the Netherlands, due to different policy choices, the level of owner-occupiers was low after the Second World War and only slowly increased ever since. Moreover, in the Netherlands full interest deductibility makes it interesting to have long mortgage terms, leading to a low level of outright owners.

User cost method (long-term analysis)

The *user cost of housing* without the expected value change was found to be higher for owner-occupiers than for tenants, in both Flanders and the Netherlands. The difference is substantial but did not take dwelling size or housing quality into account, which strongly differ between the tenures (Heylen et al, 2007). However, if the expected value change for owner-occupiers is accounted for, the user cost for owner-occupiers in 2005/2006 turns out to be a high profit, in both Flanders and the Netherlands, as the capital gains for owner-occupiers are considerably higher than all the costs involved. We would expect that higher income groups benefit more from this capital gain, as is it larger for more expensive dwellings. Nonetheless, we found that the link between income and capital gain is not necessarily linear, as intermediary variables may be at stake, such as distinct price increases in different market segments (Flanders) or the link between high value dwellings and pensioners with a decreased income (the Netherlands).

In contrast, in the short run, we found that housing expenses are related to income in a more linear way, as households also have to pay for their non-housing consumption. But also because of borrowing constraints (loan-to-income requirements by banks) the level of mortgage expenses is limited by income.

The long-term analysis clarifies that the share of mortgage interest in the user cost is much larger in the Netherlands than in Flanders, which is a consequence of the higher loan-to-value ratio of Dutch borrowers. In the Netherlands, a high loan-to-value (LTV) ratio is financially interesting because of the 100% mortgage interest deduction. In 2006 the LTV ratio was on average 101% (ECB, 2009). For the same reason, interest-only and endowment loans are popular, as they allow for full interest deduction during the loan term (Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2010). In contrast, in Belgium financial institutions do not advertise interest-only or endowment mortgages. In the period of our user cost analysis (1995-2005) the official LTV ratio for Belgium was fluctuating around 80%, implying that the mortgage amounts were increasing in line with price rises in this period (NBB, 2012).

We should take into account that the user cost analysis was carried out for 2005/2006, in a period of strongly rising house prices. The strong capital gain for owner-occupiers is a result of the way we calculated the expected value change (as the average price development in the previous five years). If this calculation was carried out for 2014, there would be a considerable capital loss in the Netherlands – since house prices strongly decreased - and only a limited gain in Flanders.

6.2.3 Distributional impact of housing subsidies

We analyzed the distributional impact of housing subsidies, by calculating how they are distributed over income groups and tenure (Chapter 4) and how they affect poverty and income inequality, by tenure (Chapter 5). The user cost approach in Chapter 4 allowed for the analysis of all type of housing subsidies, also the implicit ones. The impact in terms of inequality and poverty could only be analyzed for the subsidies that become visible in a cash flow approach (explicit subsidies). The subsidy impact is shown by comparing residual income before and after correcting for housing subsidies.

The different analyses in Chapters 4 and 5 complement each other. For instance, a housing subsidy may to a larger extent be received by the higher income groups, but at the same time decrease inequality if the benefits for the higher income groups are lower in relation to income.

Housing subsidies in the rental sector

In Chapter 4, applying a *user cost analysis*, the subsidy levels and subsidy distribution were calculated for Flanders. In this concluding chapter, we compare these results with results for the Netherlands, from a recent study by Haffner & Heylen (2014) in which the same methodology is applied. The analyses for the Netherlands was carried out on data for 2009 (WoOn) for the households that moved in the period 1995-2008.

In Flanders, social housing covers 23% of the rental market, compared to 80% in the Netherlands. Our analysis revealed that the implicit subsidy in Flemish social housing is about half of the market rent in 2008, while it decreases with income (among social tenants). Social housing is strongly targeted at the poor, as the subsidy is for 60% received by the 20% lowest incomes. The housing allowance is even more (by 90%) targeted at the lowest income quintile due to low income admission limits. However, the impact of housing allowances is limited as the subsidy reaches no more than 1,3% of tenants. In the Netherlands on the contrary, the housing allowance is received by one third of tenants.

In the Netherlands, three types of housing subsidy exist in the rental sector: the housing allowance, an ‘equity subsidy’, which results from rent setting below the maximum rent, and a ’regulation subsidy’, which is the difference between the maximum rent and the market rent. Because almost all rental properties in the Netherlands have a regulated rent, indications of a market rent are absent and need to be estimated. In the calculations for the Netherlands, a market rent of 5,4% of the assessed dwelling value was used (Haffner & Heylen, 2014; Romijn & Besseling, 2008).

The three rental subsidies in the Netherlands are found in both the social and private rental sector. Table A4 (appendix) shows that the average housing allowance, among beneficiaries, is 160 euros per month, which is slightly lower than the average estimated equity subsidy

(168 euros) and considerably lower than the estimated regulation subsidy (268 euro). Further, as housing allowances are received by one third of the tenants, the equity and regulation subsidy is received by a vast majority of tenants (correspondingly 74% and 83%).

As in Flanders, the Dutch housing allowance is aimed at the lower income groups, as more than 80% of the subsidy amount is received by the bottom quintile (see Appendix, Figure A1). On the contrary, it is shown that the equity subsidy and regulation subsidy also reach the higher incomes to a large extent. These subsidies are spread over the incomes groups in about the same way as the population of tenants. This means that within the rental sector the level of these two subsidies is hardly varying according to income. This result is logic as the equity and regulation subsidies are not determined by relating them to household income, in contrast to the implicit social rent subsidy in Flanders.

In the Dutch private rented sector – the three subsidies added together – the average subsidy amount is 73% of the average actual rent. In Flanders, this rate is close to zero. The Dutch social tenants receive a total average subsidy of 105% of average actual rent, which is about the same as in Flemish social housing. If we compare the two subsectors in the Netherlands, the level of the housing allowance and equity subsidy is on average higher in the social rented sector, while the regulation subsidy tends to be higher in the private rented sector. Housing allowances are strongly directed at social housing because of its weaker income profile, whereas the equity subsidy is in general higher in social housing because of the social aim of the housing associations and their strong asset profile, which enables a lower rent setting in line with their guidelines.

The affordability analysis revealed that housing to a large extent is unaffordable for tenants that belong to the 20% lowest incomes, even after housing subsidization, according to the budget method. In Flanders, social housing is effective in reaching this target group, as it disproportionally favors the lowest income quintile. In contrast, low income tenants in the Flemish private rented sector are hardly subsidized, as the housing allowance system is very limited. In the Netherlands, overall rental subsidization is equally directed at tenants of the lowest income quintile as those of the other income groups. Only housing allowances are targeted at the lowest income quintile, having the most affordability problems.

In Chapter 4 we analyzed the impact of the rental subsidies on poverty and income inequality. When equivalent income is corrected for net housing expenses, in both Flanders and the Netherlands the (initially higher) *poverty rate* for social tenants gets at about the same level as the one for private tenants. In Flanders this is due to the strong impact of the implicit social rent subsidy, whereas in the Netherlands this is caused by the impact of housing allowances, which are to a larger extent received by social tenants. As pointed out before, the equity and regulation subsidies in the Netherlands are not targeted at the poor. Therefore, they do not influence the initial poverty gap between the private and social rented sector. Thus, although Flanders and the Netherlands focus on different policies for targeting the poor – a small, strongly subsidized social housing market in Flanders and an extensive system of housing

allowances in a unitary rental market in the Netherlands – the outcome in terms of relative poverty is almost equal.

Housing subsidies in the owner-occupied sector

Mortgage tax relief is by far the most discussed policy measure for owner-occupiers, in both Flanders and the Netherlands. In 2005, mortgage tax relief in Flanders had the form of a tax reduction of capital payments in Flanders and a smaller additional interest deduction, both calculated at the marginal tax rate, whereas in the Netherlands it is an interest deduction at marginal tax rate. Whereas in Flanders this fiscal advantage is capped, interest is fully deductible in the Netherlands. The Dutch mortgage tax relief has a significant impact on taxable income and borrowing capacity since all interest is tax deductible whereas the deduction is only slightly counterbalanced by imputed rent taxation.

In Flanders, the (federal) government considers mortgage tax relief as a deviation from the primary tax structure. Therefore, in our analysis it is classified as a housing subsidy. In the Netherlands the government does not regard mortgage interest deduction as tax expenditure. Hence, we refer to it as a fiscal advantage instead of a housing subsidy.

We found that the benefit of mortgage tax deduction is strongly directed at the higher income groups. In both cases, in the short as well as the long run, the benefit was shown to be rising with income within the group of owner-occupiers, due to the impact of marginal tax rate and the generally higher mortgages among higher incomes (Chapter 2). This income effect is stronger in the Netherlands than in Flanders, where the tax advantage is capped. In addition to this income effect, there is a strong overrepresentation of mortgagors in the higher income groups. Therefore, the benefits are strongly directed at the higher incomes. Chapter 4 pointed out that in Flanders, in 2005, 75% of the total advantage of mortgage tax relief is received by the top 40% incomes, whereas the lowest 40% get around 9%. The cash flow analysis in Chapter 5 indicated that mortgage tax deduction in Flanders reduces the already low poverty rate for mortgagors, and reduces the income inequality (Gini coefficient) among mortgagors (by 0,8%). Nevertheless, it increases the Gini coefficient of all households (and thus general income inequality), from 0,270 to 0,271.

In the Netherlands, figures for 2008 by the Central Bureau for Statistics show that the advantage of mortgage interest deduction is even more unequally distributed than in Flanders. Almost 50% is received by the top 20% incomes, whereas the lowest 40% receives about 7% (CBS, 2010). This result is in line with our finding that the average fiscal advantage rises more strongly with income in the Netherlands. Furthermore, the distributional analyses of Chapter 5 pointed out that tax relief lowers the poverty rate of Dutch mortgagors by 13%, which is a bigger decline than in Flanders. As in Flanders, the mortgage tax relief decreases income inequality (Gini coefficient) among the mortgagors, even by 4%. Since Dutch

homeowners with a mortgage tend to have rather high incomes, mortgage interest deduction still increases general income inequality.

In Chapter 4 we focused on the distributional impact of *three other fiscal subsidies* for Flemish owner-occupiers, applying a user cost approach. Compared to the level of mortgage tax deduction (1020 euros/year), the yearly tax advantage of these three subsidies is rather limited (together 279 euros). The benefits of reduced imputed rent tax (received by 66% of homeowners) and reduced transaction tax (received by 48%) are also strongly received by the higher income groups, but to a lesser extent than mortgage tax relief, since these reductions depend on the criterion of 'modest dwellings'. Lower income homeowners tend to be overrepresented in this type of dwelling.

With regard to the Netherlands, the already mentioned study of Haffner & Heylen (2014) also focuses on the *distributional impact* of several housing subsidies for owner-occupiers. Two of the three discussed measures in this study are tax subsidies, which are – contrary to the mortgage interest deduction - recognized as tax expenditure by the government. The results are based on data for 2009 (WoOn), for the households that moved in the period 1995-2008.

A first tax subsidy, the 'tax deduction for low or no home acquisition debt' is received by 11% of owner-occupiers and involves an annual average subsidy of 749 euros for beneficiaries (see Appendix, Table A5). The target group is rather small, since the vast majority of owner-occupiers still has a mortgage. A second tax subsidy is the tax exemption (of the capital savings) for mortgagers with a capital insurance for the own dwelling (KEW). This subsidy is received by 36% of owner-occupiers and is on average 600 euros per year for beneficiaries. The third subsidy results from the lower interest rate due the National Mortgage Guarantee. This benefit, which reaches 32% of owner-occupiers, amounts to a yearly 878 euros per beneficiary. Compared to the owner-occupation subsidies in Flanders (let alone mortgage tax relief), the ones in the Netherlands are higher on average but have a smaller scope.

Further, the total benefits of the 'tax exemption KEW' and the subsidy relating to the National Mortgage Guarantee are spread over the income quintiles in the same way as the population of (recently moved) owner-occupiers (see Appendix, Figure A2). This means that there is no additional income effect, except that owner-occupiers are overrepresented among the highest incomes. Contrary, with regard to the 'tax deduction for low or no home acquisition debt' almost half of the total benefit is received by the top 20% incomes, which implies an additional income effect. Apparently, the (recently moved) outrights homeowners – which are overrepresented among the beneficiaries of this subsidy – have a relatively strong income profile.

The distribution over income quintiles of the three subsidies (for owner-occupiers) together was found to be rather equal to the distribution of owner-occupiers over these quintiles. In Flanders this is not the case, as homeowner-subsidies are more than proportionally directed at

the highest incomes (Haffner & Heylen, 2014). This picture would have been significantly different if the Dutch mortgage interest deduction was regarded by the government as a deviation from the primary tax structure, and included in this analysis.

With regard to the discussed owner-occupation subsidies we can conclude that both Flanders and the Netherlands are not effective in targeting the owner-occupiers with the most affordability problems (in the short run), which are the ones belonging to the lowest 20% incomes in society. In the Netherlands, not including mortgage tax relief, this group gets no more than a proportionate share of the subsidies, whereas in Flanders the bottom quintile receives a less than proportionate share of total housing subsidy.

Total housing subsidization

When we regard the overall picture of housing subsidization, based on the primary tax structure for calculating fiscal subsidies, in Flanders a moderate Matthew-effect exists. The two top quintiles on average benefit the most, whereas the third and fourth quintile receive the lowest subsidy shares. Due to social housing, the lowest quintile receives a more than equal share. The impact of the mortgage tax relief is the strongest, followed by the impact of social housing. We did not find a large Matthew-effect, in contrast to the study of De Decker (2000) for data of 1995. The study of De Decker did not apply the user cost method and did not take other tax advantages into account besides mortgage tax relief. Chapter 4 also pointed out that owner-occupiers in Flanders on average receive 29% more housing subsidies than tenants, despite the fact that affordability is more problematic in the rental sector.

In contrast, in the Netherlands, the overall housing subsidization does not involve a Matthew-effect. Following the subsidy benchmark of the primary tax structure, the housing subsidies are for 40% directed at the lowest income quintile, mainly because the subsidies for the - generally poorer - tenants are on average larger than for owner-occupiers (Appendix, Tables A4 & A5). Therefore, the higher income groups receive less than an equal share of subsidies. The average housing subsidy for tenants turns out to be a lot higher (4780 euros) than for owner-occupiers (530 euros) (Haffner & Heylen, 2014), meaning that the subsidies are strongly targeted at the tenure with the largest affordability problem, contrary to the situation in Flanders.

6.3 Policy discussion

As a result of the strongly rising house prices since the beginning of the 1990s, affordability of housing was high on the policy agenda in many OECD countries in the mid-2000s. The question was raised whether households could still afford decent housing and whether the existing policy schemes were addressing the housing need in the right way.

Our analyses were carried out for 2005/2006. At this period it seemed that house prices could only rise. However, it soon became clear that prices can also fall. Since 2008 in many countries house prices sharply dropped, following the global financial crisis. In the Netherlands, house prices continuously decreased and in 2013 the average house price was back at the level of 2004. As a result, even one third of owner-occupiers had a mortgage that exceeded the value of their house (CBS, 2014). In contrast, in Flanders the price of dwellings did not decrease. They stabilized in 2008 and were slightly rising again since 2009. This internationally exceptionally trend is, among other factors, due to the cautious behavior of Flemish mortgage borrowers, a strict mortgage law, relatively low turnover and less speculative investment in the housing market than in other countries (Dol et al, 2010).

In the 21st century, the housing market faces new challenges. The financial crisis clarified that the housing market not only provides housing services but is also a risky investment. Whereas in the past, as demonstrated in our study, owner-occupation yielded considerable capital gains, many Dutch owner-occupiers are facing a capital loss in recent years. This evolution also points out that the analysis of the dwelling value change is a crucial part of a comprehensive affordability analysis.

Despite the steep house price rises in the period 1990-2005, we found that in 2005/2006 the large majority of households (about 86%) in Flanders and the Netherlands were not confronted with affordability problems in cash flow terms. Owner-occupiers generally have higher housing expenses than tenants, in both cases. But this is not problematic for most of them, as the vast majority of owner-occupiers have enough income left after paying for housing. Due to a weaker income profile, the problem of unaffordable housing is more widespread among tenants, also after taking subsidization into account. Mainly the tenants in the lowest income quintile are confronted with an affordability problem, but also a significant part of tenants in the second income quintile, in both Flanders and the Netherlands.

According to survey data the affordability problem for tenants has worsened over time, in both Flanders and the Netherlands. Relatively more tenants fall above the 30% threshold of the rent-to-income ratio in 2005/2006 than in 2000, mainly due to the weakening income profile of tenants. Although house price strongly rose, the affordability problem for owner-occupiers, in cash flow terms, only increased to a limited extent in both cases (Heylen & De Decker, 2011; Haffner, 2010). Yet, the price evolution is only one part of the picture, as affordability of homeownership is also determined by the (increasing) income of households and especially the mortgage interest rate, which strongly decreased in this period. Because of the latter, the higher prices lead only to a moderate increase in housing expenses for mortgagors.

Our study indicates that 14% of households have a residual income left below the minimum for decent living, in both Flanders and the Netherlands. These households almost entirely belong to the two lowest income quintiles. This outcome entails that the debate about effective housing subsidization should continue and focus on solutions for the worst-off. But

it also shows that strongly differing policies between two cases can result in an equal general outcome.

For Flanders, the results of our study point at a clear duality between private and social housing, with regard to income composition, actual rent and subsidy impact, in line with Kemeny's dualist rental system. The Flemish social housing is rather small and, compared to the private rented sector, strongly subsidized. Notwithstanding the strong income differences between private and social renting, in terms of poverty the outcome is equal and in terms of affordability (budget approach) the gap is considerably small. Therefore, the substantial subsidization of social rent can be regarded effective in securing affordable housing for the poor. Another point of effectiveness is that social rent in Flanders is income-dependent and market rent will be (approximately) paid by social tenants when their income rises and they do not longer belong to the target group. Further, according to the budget approach still a relatively large group of social tenants faces an affordability problem, which indicates that social rent is not excessively subsidized. The affordability outcome would even be a lot worse without the substantial subsidies involved.

A drawback in effectiveness of the Flemish housing policy is the lack of attention for low income tenants in the private rented market. Compared to the Netherlands, tenants in the Flemish private market are hardly targeted by housing allowances while no rent regulation exists that links the rent level to the quality of housing. Nevertheless, unaffordable housing is more widespread among private tenants in Flanders than in the Netherlands. The private rental sector in Flanders includes a problematic segment, not only in terms of residual income but also in terms of housing quality. Research points out that this segment comprises about one third of tenants (Le Roy et al, 2008). The long waiting list in Flanders for social housing - more than 90.000 applicants in 2013 - is another indication of the existence of a problematic private rental market segment. The 6th state reform in Belgium gives the Flemish government the opportunity to further develop a coherent policy for the private rental market, including targeted measures for the worst-off but also measures directed at the landlords. For instance policies in order to stimulate renovation or to keep dwellings in the rental market. The latter is a crucial issue, as the Flemish private rental market consists mainly of individual landlords, of which one third is 65 or older. Thus far, as a result of policy choices in the past, the policy budget aimed at the rental market is, per capita, lower than the budget for owner-occupiers, despite greater problems in terms of quality and affordability for tenants.

In comparison to Flanders, in the Netherlands the differences between private and social renting in terms of actual rent, income profile and subsidy impact, are far more limited. This can be expected in a unitary rental market where social and private renting compete for a broad range of tenants. The total subsidy level in social housing is about the same as in Flanders, whereas (mostly implicit) subsidization in the private rental market is considerable. While the Flemish private rental market is hardly subsidized, in the Netherlands the three discussed subsidies are received by both social and private tenants. The regulation subsidy is even to a larger extent received in the private rental market. Although in Flanders social

housing is the measure that targets the poor, housing allowances have this function in the Netherlands. Housing allowances in the Netherlands are strongly directed at the lowest income quintile, being the group with the biggest affordability problem. The advantage of the Dutch 'poverty subsidy' in the field of housing is that poor tenants in both subsectors are addressed.

In the Netherlands, tenants with high income are to the same extent reached by the equity or regulation subsidy as those with low income, which can be regarded as a shortcoming in effectiveness from the perspective of vertical equity. Moreover, the level of the targeted housing allowance is modest compared to the combined size of the equity and regulation subsidy. As a result, more than in Flanders, in the Netherlands debate is going on about higher income households in social housing. It is often argued that they keep low-rent dwellings occupied while having no need for it. The Dutch term *scheefwonen* is used to describe this situation (Tweede Kamer, 2011). In order to counteract *scheefwonen* the Dutch government recently introduced the possibility of an income-dependent yearly rent increase above inflation in the regulated part of the rental sector (both social and private) (Tweede Kamer, 2013). Furthermore, in 2011 the Dutch government imposed the rule that at least 90% of the dwellings (with regulated rent) of housing associations should be allocated to low income households. As a consequence, the group with a lower middle income will have to find a dwelling outside the regulated social rental market. A recent study points out that for this group it will be problematic to find a suitable and affordable dwelling in another market segment (Raden voor de leefomgeving en infrastructuur, 2011).

In Flanders, the subsidization of tenants with higher incomes (*scheefwonen*) is less of an issue, as private tenants are hardly subsidized and rents in social housing are adapted every year in accordance to (potentially rising) taxable income. High income tenants in social housing will eventually pay more or less the market price. In this context, the in 2014 installed Flemish government intends to replace the indefinite rental agreements in social housing by fixed term agreements for new tenants, partly to respond to the presence of higher incomes groups in social housing. Rental agreements will be ended if the tenants' income rises above a defined threshold. In doing so, more dwellings will become available for the target group (Vlaamse Regering, 2014).

With regard to the owner-occupied sector, our study points out that the heavily debated mortgage tax relief does not contribute to vertical equity. The higher income groups receive a more than proportionate share of the total advantage, more so in the Netherlands than in Flanders. Furthermore, it does not target the group with most affordability problems (lowest income quintile) since this group generally does not have the means to become a homeowner. Although vertical equity is usually not mentioned as an explicit goal of mortgage tax relief, it is clear that mortgage tax relief is not an adequate measure to realize it, because of multiple reasons: higher incomes tend to be overrepresented among owner-occupiers because of borrowing constraints for lower income groups, the advantage is calculated at marginal tax rate, and higher incomes tend to have higher mortgages. Nonetheless, within the groups of

owner-occupiers, inequality is reduced by mortgage tax relief, to a larger extent in the Netherlands than in Flanders.

Mortgage tax relief is often linked to the policy goals of increasing affordability for owner-occupiers and enhancing the level of homeownership. However, the impact on these interrelated goals is unclear in the case of Flanders and the Netherlands. Recent studies pointed out that Flanders and the Netherlands have a rather low price elasticity of supply, suggesting that the advantage of mortgage tax relief is largely neutralized in a price increase and therefore does not significantly improve affordability (Goeyvaerts et al, 2014a; Caldera & Johansson, 2013; Vermeulen & Rouwendal, 2007). Since the benefit of mortgage tax relief is higher in the Netherlands than in Flanders, also this price increasing effect is presumed to be higher. In the Netherlands, the debate about the undesirable effects of mortgage tax relief and a possible reform of the system is ongoing for more than a decade. In Flanders, this debate started only recently, induced by the regionalization of this policy measure.

Since 2005 the 'old' mortgage tax relief system in Belgium is, for new mortgages, replaced by a tax deduction with a fixed amount, called the housing bonus (*woonbonus*). In this new system the maximum advantage can be given to each lender, whereas in the old system the maximum deduction was set per loan. Also, the maximum individual advantage is considerably higher in the *woonbonus* system. As before, the deduction is calculated at the marginal tax rate, leading to larger subsidies for the higher income groups. Recent results, based on a European survey from 2010 (EU-SILC), indicate that the new system involves a higher formal subsidy-level but that the distributional outcome barely changed (Goeyvaerts et al, 2014a).

From 2015 onwards, the tax deduction of the own dwelling will become a regional competence in Belgium, which offers possibilities to the Flemish government to adjust the system. Not only the distributive outcome of the system should be taken into account, but also aspects of budget efficiency and housing market functioning. In case the government does not alter the system, the fiscal expenditure on the housing bonus is expected to rise from 1,2 billion euros in 2014 to 1,9 billion euros in 2020. If the government decides to lower the fiscal benefit, a substantial budget will be available that might be used to address the housing need in a more effective and efficient way. In this respect, the Flemish Housing Council proposed a couple of scenarios for removal of the housing bonus, and alternative scenarios for a more effective housing policy (Vlaamse Woonraad, 2002). However, as also recognized by the Flemish Housing Council, one should be cautious in lowering or removing the housing bonus, because of possible repercussions for the housing market. A recent Flemish study points out that house prices might drop by more than 20% in case the system is immediately removed (Goeyvaerts et al, 2014b). The same study concludes that a non-indexation of the housing bonus – which is currently corrected for inflation on yearly basis – is a minimal measure the government reasonably could take. The study also simulated that a removal of the housing bonus over 25 years for new contracts will not cause a price decrease, as other factors will still push prices upwards (e.g. rising household income). Nevertheless, it is argued that a

reduction of the system is best postponed for some years, until a more favorable economic environment arises.

Recently, in July 2014, the Flemish government communicated in the Governmental Agreement (*Regeerakkoord*) for the period 2014-2019 that the housing bonus will be adjusted because of budgetary reasons and its assumed impact on the housing market. The deductible amount will not be indexed anymore, neither for existing or new contracts. In addition, the deductible amount will be cut by 760 euro for new mortgages whereas the benefit will be calculated at a rate of 40% instead of the marginal tax rate (Vlaamse Regering, 2014). This benefit reduction could induce a small price decrease, whereas the rate change will lead to lower subsidies for the higher income groups and higher benefits for mortgagors with the lowest incomes. Nevertheless, as recent policy simulations indicate, such a system will still increase income inequality, as mortgagors are overrepresented among higher incomes groups (Goeyvaerts et al, 2014a).

In contrast to Flanders, house prices in the Netherlands continuously decreased since 2008. According to Haffner & de Vries (2010) the continuous price drop is mainly due to a psychological effect, resulting from the 2008 recession. In the period before 2008, ever since the mid-1980s house prices in the Netherlands were rising. The steepest rise took place in the 1990s (more than in Flanders), resulting from an increasing borrowing capacity of households. This was due to - among other factors - a decreasing interest rate and the emergence of mortgage types that allowed for full interest deduction during the loan term.

At the beginning of the 21th century the Dutch government started adjusting the system of mortgage interest deduction because of its budgetary consequences. Compared to Flanders, as mentioned, the Dutch system is more generous and increased prices to a larger extent. Therefore, the potential impact on housing prices of altering the system is bigger. In 2001 the deduction got limited to 30 years and the first dwelling. In 2004 imputed rent taxation was in practice abolished, in order to stimulate mortgage repayment or financing by equity. After a long period of debate, in 2012 the Dutch government decided to further limit the mortgage interest deduction. From 2013 onwards, for new mortgages the tax relief is only available in case of a repayment mortgage or linear mortgage. Additionally, from 2014 onwards the highest tax deduction rate for mortgages is gradually lowered, from 52% in 2014 to eventually 38% in 2040. With these measures the Dutch government intends to save a substantial budget while stimulating repayment of mortgages in order to reduce the high Dutch mortgage debt. One of the results of the policy changes will be that starters in the owner-occupied sector will be confronted with higher housing expenses, possibly yielding an additional decrease of house prices.

While in Belgium homeownership was heavily promoted for decades, the Netherlands focused on the subsidization of social housing after the Second World War. Among other factors, this led to a remarkable difference between Flanders and the Netherlands in the share of owner-occupiers - and even more - the share of outright owners, which is considerably

larger in Flanders. These differences have a large impact on differences in affordability. In terms of short run affordability the outright owners, with an overrepresentation of elderly, logically have a good outcome compared to the other housing sectors. The absence of fixed housing expenses is beneficial for elderly that due to pensioning have generally lower disposable incomes. In line with the life cycle reasoning, outright ownership at older age provides substantial 'in kind' but also potential 'in cash' income that tenants and – to a lesser extent – mortgagors do not have. The assets related to outright ownership are considerable and can be addressed should the need arise, by trading down to cheaper housing, becoming a tenant or by mortgage equity release. The latter is legally not possible in Belgium, but it is clear that the impact of in kind or potentially in cash income for elderly is substantially larger in Flanders than in the Netherlands.

Finally, it should be mentioned that the problem of unaffordable housing is not only an issue for housing policy. As housing policy is often mentioned as the 'wobbly pillar of the welfare state' - because of its high reliance on market structures - the outcome in terms of affordability should or cannot only be improved by measures related to housing. Unaffordable housing is strongly related to income inequality and poverty, which are issues that are addressed in many policy fields, such as social security (pensions, unemployment benefits), employment policy or social assistance. As our study pointed out, people living on replacement incomes are vulnerable groups when it comes to affordable housing. However, an analysis of the adequateness of these benefit levels did not fall within the scope of our study.

6.4 Strengths and limitations of the study

The findings point out that the two approaches for analyzing affordability and the impact of housing subsidies complement each other and that this combination of a user cost and cash flow analysis offers a more complete understanding of the subject. If only a short run affordability method was applied, the impact of capital gains, which has different aspects in our cases, or the difference in homeowners' equity between Flanders and the Netherlands would not have become visible. Moreover, the user cost approach for measuring housing subsidies has the advantage that both explicit and implicit subsidies could be included in the distributional analysis, whereas the cash flow method allows for measuring the impact of housing subsidies on poverty or income inequality, as they may be linked to disposable income.

In previous Flemish research on housing subsidies the user cost approach was applied by using 'typical cases' with differentiations according to income, dwelling value and number of children (Doms et al, 2001). This approach revealed certain characteristics of the subsidies for owner-occupiers. Our approach based on survey data made clear that also other elements are relevant for the distributive outcome of subsidies, that cannot be discovered by such a

methodology. For instance outcomes that refer to links between households income and dwelling value or renovation costs.

The comparative aspect of the study provides a clear added value. Certainly since Flanders and the Netherlands have a strongly different structure of the housing market and rely on different policy measures to improve affordability in the rental sector. But also in the owner-occupied sector the housing subsidies differ to a large extent. A limitation is that the comparison was limited to two welfare states of western Europe with a similar level of living standard.

In this study, tax subsidies were defined by using the primary structure of the tax system as a benchmark, but they can also be defined by a tenure or a tax neutrality benchmark. Tenure neutrality means that income from homeownership is treated equally by the tax system, regardless of the tenure type, whereas tax neutrality involves an equal tax treatment of all investment assets. The latter entails that non-taxation of capital gains – which strongly depend on price evolution - will be considered as a tax subsidy. It is argued that neutrality of taxation leads to a more efficient distribution of resources.

Another limitation of the study is that it only focused on the formal, first round effects of mortgage tax relief (and other housing subsidies) and did not explore behavioral effects, or the second round repercussions of subsidy systems on supply and demand.

6.5 Further research

We conclude by suggesting several topics for further research. These topics could not be dealt with within the scope of our study.

We presented an integrated approach for measuring affordability. Yet, in order to determine affordability in a more complete way, also standards for housing quality should be included in the analysis. In Chapter 3 we made a moderate attempt in this field, by analyzing affordability with a combination of the budget approach and a standard for overcrowding. We found in both Flanders and the Netherlands that affordability figures could change considerably if they were corrected for the share of households that is living ‘overhoused’ or ‘overcrowded’. We acknowledge that the overcrowding aspect is only one dimension of housing quality and ideally a multi-dimension quality indicator is used. Especially, households which under-consume housing involuntarily need to be identified, as decent standard housing clearly is unaffordable for them. The identification of under-consumption is especially relevant in the case of subsidy measures in order to be able to target them well.

With regard to the user costs of housing, in further research a link could be made between the user cost and the quality of housing. For instance by relating the user cost to a quality index. Such analysis would improve the comparability of user costs across tenure and income groups (e.g. Elsinga & Conijn, 2001).

In our analysis we did not specify any regional differences within Flanders or the Netherlands. Clearly, regional analyses of affordability and distributional subsidy impact would provide an added value, as house prices, rent and disposable income strongly differ between regions.

Finally, regarding standards for affordability, we applied a minimum income that households should have left for non-housing consumption. For both Flanders and the Netherlands budget standards were available that identify the minimum non-housing consumption that allows for decent participation in society. The user cost approach will also allow for such an analysis, if long-term housing costs are confronted with life-long (or so-called permanent) income (Hancock, 1993).

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Appendix

Appendices to Chapter 1

Table A1 Subsidies related to housing in Flanders, the entitlement rules and mechanisms that lead to a reduction of the cost of housing

	Entitlement rules	**Subsidy mechanisms (that lower the cost of housing)**
Owner-occupiers		
Tax subsidies, according to the primary tax structure		
Mortgage tax relief Reduction of capital payments for mortgage (*Belastingvermindering voor bouwsparen*)	Mortgages with loan term ≥ 10 years. For the 'only dwelling'. For the construction of a new house, the purchase of existing dwellings or building land. System from 1963 until 2004 (adapted in 1989).	Tax reduction in income tax, calculated at marginal tax rate, limited by: o The loan amount that is taken into account (per loan), with basic amounts: 50.000 euros (no child) 52.500 euros (1 child) 55.000 euros (2 children) 60.000 euros (3 children) 65.000 euros (4 or more children). o An income boundary (per individual taxpayer) . o A maximal deductible amount (per individual taxpayer) 1830 euros in 2005.
Additional interest deduction (*Bijkomende interestaftrek*)	Mortgages with loan term ≥ 10 years. Loan for VAT-liable costs (construction of new house, purchase of VAT-liable dwelling or renovation) For the 'only dwelling'.	Tax deduction in income tax, at marginal rate, of the part of the interest above the level of the indexed cadastral income, limited by: o The loan amount that is taken into account (per loan). basic amounts: 50.000 euros (no child) 52.500 euros (1 child) 55.000 euros (2 children) 60.000 euros (3 children) 65.000 euros (4 or more children). Amounts are divided by 2 in case of renovation loan.

Deduction for the only and own dwelling (*Aftrek voor de enige eigen woning or 'Woonbonus'*)	Mortgage for the own and only dwelling. System from 2005 onwards.	Using the formula: Capital payments*(maximum amount /total loan value) o Limitations in time: Year 1-5: 80%, year 6: 70%, year 7: 60%, year 8: 50%, year 9: 40%, year 10: 30%, year 11: 20%, year 12: 10%. Tax deduction in income tax, of interest and capital payments for mortgage, limited by: o A maximal deductible basic amount (per individual taxpayer) of 1920 euros in 2005 o Raised by 640 euros (in 2005) during first 10 years of the loan o Raised by 70 euros if the owner has 3 dependent children
Non-tax subsidies		
Flemish renovation grant (*Vlaamse renovatiepremie*)	For owner-occupiers. Taxable income: maximum 38.730 euros for singles and 54.390 euros singles with 1 dependent person or couples (enhanced with 3050 euros per dependent person) (amounts for 2011). A minimum cost of 10.000 euros is needed.	Grant calculated as 30% (taxable income ≤ 27.200 euros) or 20% (taxable income > 27.200 euros) of official costs. The grant is limited to 10.000 euros.
Grant for improvement (*Verbeteringspremie*)	For residents and landlords (using social rental agencies). Taxable income: maximum 27.200 euros for residents (enhanced with 1420 euros per dependent person) and 54.390 euros for landlords (amounts for 2011). Dwellings of minimum 20 years old.	The level of the grant varies between 250 and 1500 euros, depending on the type of renovation (amounts for 2011).
Grant for adjustment (*Aanpassingspremie*)	For residents and landlords (using social rental agencies). One of the residents or the applicant is minimum 65 years old. Taxable income: maximum	The grant is 50% of the official costs, with a minimum of 600 euros and a maximum of 1250 euros (amounts for 2011).

	27.200 euros for residents (enhanced with 1420 euros per dependent person) and 54.390 euros for landlords (amounts for 2011).	
Social loan of the VMSW (*Sociale lening VMSW*)	For building new dwellings, purchase with renovation, renovation or purchase of a social dwelling. Boundaries for taxable income: maximum 31.820 euros for singles and 47.370 euros for families of at least two people (in 2011) No dwelling or building land in possession.	With regard to the mortgage loan, a 'social' interest rate is calculated. The interest rate depends on the actual market rate, the taxable income and family situation.
Social loan of Vlaams Woningfonds (*Sociale lening Vlaams Woningfonds*)	For building new dwellings, purchase with renovation or renovation. Boundaries for taxable income: maximum 50.920 euros for families with one child (in 2011) No dwelling or building land in possession. Applicants need to have minimum one child.	With regard to the mortgage loan, a 'social' interest rate is calculated. The interest rate depends on the actual market rate, the taxable income and family situation.
Social dwelling in owner-occupation (*Sociale koopwoning*)	Boundaries for taxable income: maximum 31.620 euros for singles and 47.100 euros for families of at least two people (in 2011) No dwelling or building land in possession.	The price of the dwelling is substantially lower than the market price, due to lower transaction tax and VAT rate, and bricks-and-mortar subsidies by the Flemish government. Often (for 90%) in combination with a social loan of the VMSW.
Tenants		
Social housing (S*ociale huisvesting*)	No dwelling or building land in possession. Taxable income: maximum 19.169 euros for a single; 28.753 euros for couples or families with one child; raised with 1 607 euros per dependent child (in 2011).	Social rent is calculated as $1/55^{th}$ of annual taxable income, with a correction for family composition and the dwelling quality, and limited by a minimum and a maximum rent (the market rent).

Housing allowance (*Huursubsidie* or *tegemoetkoming in de huurprijs*)	No dwelling or building land in possession. Moving from a dwelling in bad condition to a suitable dwelling or renting from a Social rental agency (*Sociaal verhuurkantoor*). Taxable income: maximum 15.830 euros for a single or couple; raised with 1042 euros per dependent child (in 2011). The (new) dwelling has a maximum market rent (530 euros in 2011).	System from 1992-2006: Allowance for maximum 15 years, not regressive. System from 2007 onwards: Allowance for maximum 9 years. The levels vary between three income groups and are decreasing over time. Years 1 and 2 (in 2011): Taxable income of maximum 15.830 euros: allowance of 106,5 euros/month Maximum 13.490 euros: 159,75 euros/month Maximum 9790 euros: 213,0 euros/month Years 7,8,9 (in 2011): Allowance is 63,9 euros/month Beneficiaries receive an installation grant, one time, when they start receiving the allowance. Elderly and people with a handicap can receive a lifelong allowance.

Table A2 Subsidies related to housing in the Netherlands, the entitlement rules and mechanisms that lead to a reduction of the cost of housing

	Entitlement rules	**Subsidy mechanisms (that lower the cost of housing)**
Owner-occupiers		
Tax subsidies, according to the primary tax structure		
Tax exemption capital insurance for own dwelling (*Belastingvrijstelling Kapitaalverzekering Eigen Woning*)	The dwelling has to be the main residence (own dwelling). The capital repayment will be used to repay the mortgage debt.	The capital value is tax-free instead of taxed in box 3 (savings and investments) of the income tax.
Tax deduction for low or no home acquisition debt (*Aftrek voor geen of geringe eigenwoningschuld*)	Owner-occupiers with a mortgage debt lower than imputed rent (*eigenwoningforfait*) are entitled.	The subsidy is the difference between imputed rent (*eigenwoningforfait*) and the mortgage interest.
Non-tax subsidies		
National Mortgage Guarantee (*Nationale Hypotheek Garantie*)	A maximum is set for the total cost of the dwelling purchase	The National Mortgage Guarantee, which is provided by the Guarantee

	(290.000 euros in 2013). The dwelling has to be the main residence. The income is evaluated by the Bureau for Credit Registration (*Stichting Bureau Krediet Registratie*).	funds of the Own dwelling (*Waarborgfonds Eigen Woning, WEW*) allows for a reduction of the mortgage interest rate. Lower interest rates are possible since the lender (bank) has got a guarantee of debt repayment by the WEW in case the borrower has to sell the dwelling with a residual debt.
Tenants		
Housing allowance (*Huursubsidie* until 2006; *Huurtoeslag* from 2006 onwards)	For tenants in both the private and social rented market. Review income, yearly (2011) (*Toetsingsinkomen*): Single person: Age 18-64: max. 21.625 euros Age ≥ 65: max. 20.325 euros Actual rent *(Rekenhuur)* limits: Age 18-22: 212-362 euros Age 23-64: 212-653 euros Age ≥ 65: 210-653 euros Couple or more persons: Age 18-64: max. 29.350 euros Age ≥ 65: max. 27.750 euros Rent limits: Age 18-22: 212-362 euros, increased per child Age 23-64: 212-653 euros Age ≥ 65: 210-653 euros Equity restrictions. Rent limits are higher for people with a handicap.	The level of the housing allowance – in terms of % of rent - is dependent on the level of the actual rent: A basic rent (*Basishuur*) is calculated, based on income and household composition. This basic rent every household fully has to pay. In 2011, the minimum basic rent is 212 euros for a single person. The tenant receives a 100% allowance to bridge the gap between the basic rent and a first rent ceiling (*Kortingsgrens*), which is 362 euros in 2011. Next, for the part of the actual rent between the first ceiling and a second ceiling (*Aftoppingsgrens*), a 75% allowance is received. In 2011, the second ceiling is 518 euros for a household of max. 2 people and 555 euros in case of 3 people or more. For the part above the second ceiling, there is no subsidy, except a 50% allowance for single people, elderly and disabled persons.
Equity subsidy (*Vermogenssubsidie*)	For tenants in both the private and social rented market. No entitlement criteria.	The subsidy is the difference between the actual rent and the regulation rent (*Reguleringshuur*), which determines the regulated part of the rental market.
Regulation subsidy (*Reguleringssubsidie*)	For tenants in both the private and social rented market. No entitlement criteria.	The subsidy is the difference between the regulation rent (*Reguleringshuur*), and the market rent.

Appendices to Chapter 2

Appendix 2.1. Datasets and Variables Used

Datasets

For Flanders the Housing Survey 2005 is used for calculating expenses and costs. This survey was conducted by the *Kenniscentrum voor Duurzaam Woonbeleid* and included 5216 Flemish households. A weighting factor was applied to adjust the distribution of dwelling type and district. For the Netherlands, the study used the Dutch Housing Survey, the WoON 2006, a survey of the Ministry for housing. The income data of the tax administration of 2005 were coupled with the survey data. More than 60.000 households were interviewed. Weighting factors were applied to the sample, also to obtain results for all Dutch households, which numbered almost 7 million. Based on the raw data, the minimum number of necessary observations was set at 50 per cell, also for the Flemish Housing Survey, in order to safeguard the statistical reliability and accuracy of the results. For the Dutch data, there were no non-responses on income as they were based on registration, while the Flemish data were based on a sample with a non-response rate of 33%.

Variables used for expense calculations

The necessary variables for the expense calculations are directly available in the datasets.

Variables used for homeowners' user cost calculations

For the user costs of owner-occupiers extra assumptions were added (see Table A3).

Table A3 Datasets and variables

Variable	*Flanders 2005*	*Netherlands 2006*
Interest on mortgage loan	Calculated with data from Woonsurvey 2005	Available in WoON 2006
Fiscal effect mortgage loan	Calculated with data from Woonsurvey 2005	Available in WoON 2006
Owner's equity	Calculated as 'value of the dwelling minus outstanding mortgage loan'	By owner-occupier estimated value of dwelling minus outstanding loan
Transactions tax on purchase of existing dwelling: assumed to be financed with owner's equity	Transfer tax: 12,5% or 6% (small dwelling) of purchase price before 2002; 10% or 5% (small dwelling) since 2002	Transfer tax: 6% of purchase price
Purchase price dwelling	Available in Woonsurvey 2005	Available in WoON 2006
Outstanding mortgage loan	Calculated with data from Woonsurvey 2005	Available in WoON 2006
Interest rate on owner's equity	3,40 % (2005; effective return 10-year government bond) (National Bank of Belgium, 2008)	3,37% (2005; effective return 10-year government bond) (OECD, Main Economic Indicators, 2007)
Fiscal effect owner's equity	15% of the interest on 10-year government bond	Estimated as 30% tax rate on private net wealth
Expected appreciation	Average development last five years (2001 to 2005), according to dwelling type (apartment, small/average dwelling, large dwelling) and province (Source Stadim). Average is 8,2%.	Average development last five years (December 2000 to December 2005) based on repeat sales index (Kadaster) differentiated according to dwelling type and province. For single-family dwellings: 3,9% to almost 10%; and for multi-family dwellings: 4,3% to almost 12%.
Costs of operation:		
Depreciation	0,85% of house value (Conijn, 1995)	0,85% of house value (Conijn, 1995)
Building insurance	No data available	Available in WoON 2006
Ground lease	No data available	Available in WoON 2006
Owner's share of maintenance costs	Estimated with data from PSBH 2001, according to number of rooms and indexed. It is estimated as: (average maintenance costs owners minus average maintenance costs tenants) / average maintenance costs owners, Ratio = 0,58	The Flemish ratio of 0,58 is used to determine the owner's share in the total average amount of maintenance costs for owner-occupiers
Owner's share of property tax	Calculated with data from Woonsurvey 2005	Available in WoON 2006

Technical description of user cost analyses of homeowners

Contrary to Equation 3, the costs of funding the value of the dwelling consists of equity and debt. For the costs of the mortgage, the actual interest payments of households were used. As flexible rate mortgages are more the exception than the rule in Flanders and the Netherlands (DNB, 2008; NBB, 2009), the implied interest rates are rather more long-term than short term. For the costs of equity also a long-term (10-year) interest rate was also used. According to Himmelberg, *et al.* (2005) this allows for the use of a constant rate of expected future value change.

The constant rate of future value change of the dwelling is calculated *ex post* as the average of the price changes over the five years preceding the reference dates of the surveys used. This approach mirrors homeowners' practice (Garner & Verbrugge, 2007; Nordvik 1995). For the Dutch data the repeated sales index was used to calculate the specific price change: the price change of individual dwellings was followed. The chosen period of five years may be considered a too short a period in order to estimate a structural value (Boelhouwer, 2000; Eichholtz, 1997), but it does give an impression of the house price risk that the homeowner is running. As house prices were historically high for Flanders (De Decker, 2007) in this period and were coming down from a historical high in the Netherlands (Haffner & De Vries, 2009), the user costs calculated may be underestimated for both countries.

The fact that in terms of Equation (4) the interest rates and expected value change were not corrected for general price inflation does not come without a cost. Equation (4) more or less presents the Dutch situation, as far as any of the imputed deductible holding costs are included in taxable imputed rent. For Flanders, as the holding costs are not tax deductible, the holding costs would not be part of the second term of the equation where this is not the case. Using nominal rates of interest and value change means that user cost will be underestimated for Flanders as well as the Netherlands. In Equation 4 when the real rates of interest and value change are replaced by nominal ones, the addition of the inflation rate is cancelled out in the first term of the equation. In the second term, the inflation rate will be doubled, leading to an underestimation of the user cost with inflation corrected by the tax rate. Average inflation rates were relatively low in 2005: it was 2,8% in Belgium and 1,7% in the Netherlands.

Appendices to Chapter 6

Rental sector

The 'equity subsidy' is calculated as the difference between the estimated market rent and the maximum rent (by *Woningwaarderingstelsel*) under the points system by which the quality of the property is displayed according to the property valuation system. Because almost all rental properties in the Netherlands have a regulated rent, indications of a market rent are absent. Based on Romijn & Besseling (2008), market rent is estimated by Haffner & Heylen (2014) as 5,4% of the assessed value of the property. The estimation of the market rent assumes an actual return for landlords of 7%. A price increase of 3% and maintenance costs of 1,4% yield a user cost 5,4% of the property value (WOZ-waarde). This way, the rental income minus the maintenance cost yield a direct return of 4%. To what extent this is a realistic estimate of the market rent and therefore the size of the subsidy is hard to evaluate. This estimate implies that the market rent for the recipients would be approximately 65% higher than their actual rent (Haffner & Heylen, 2014).

Table A4. Subsidies in the rental market, theoretical and actual user cost for beneficiaries moved since 1995, average in euros per year, and scope of the subsidies, The Netherlands, 1st of January, 2009

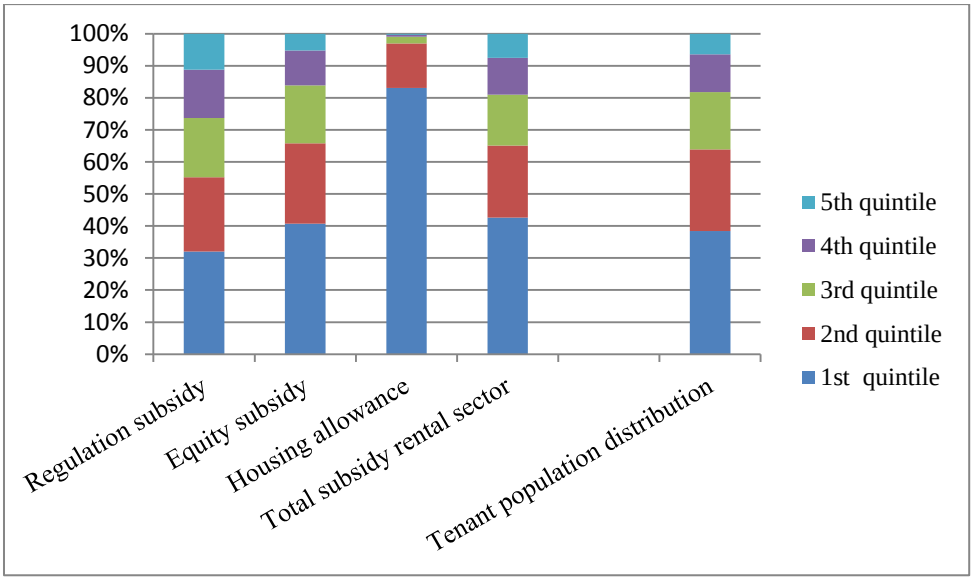
	Subsidy	Theoretical user cost	Actual user cost	Number of beneficiaries	% of all tenants
Housing allowance	1922	8553	3018	599.405	36,2
Estimated subsidy, due to rent regulation*	3210	10.441	4910	1.221.424	73,7
Estimated equity subsidy**	2020	9498	4387	1.382.094	83,4

Source: WoON 2009, OTB calculations (almost 1,7 million tenants in total) (Haffner & Heylen, 2014)

*) Subsidy as difference between estimated market rent and rent that is maximally allowed according to the 'housing valuation system' (*woningwaarderingsstelsel*)

**) Subsidy due to actual rent setting of landlords below the maximum rent according to the 'housing valuation system' (*woningwaarderingsstelsel*)

Figure A1. Housing subsidies for tenants, moved in the period 1995-2008, total amounts according to (equivalent) income quintiles of the population, and distribution of these tenants over the quintiles (in %), The Netherlands, 1st of January 2009



Source: WoON 2009, calculations by OTB (Haffner & Heylen, 2014)

Owner-occupied sector

Table A5. Subsidies in the owner-occupied sector, theoretical and actual user cost for beneficiaries moved since 1995, average in euros per year, and scope of the subsidies, The Netherlands, 1st of January, 2009

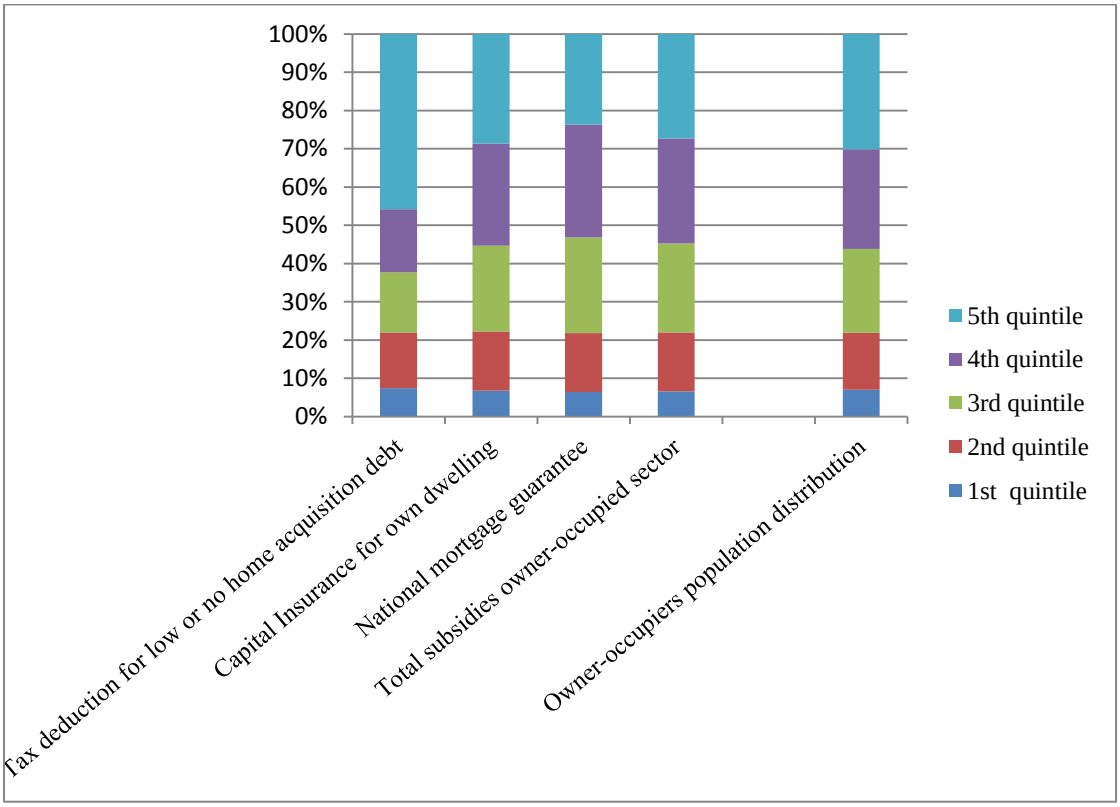
	Subsidy	Theoretical user cost	Actual user cost	Number of beneficiaries	% of all owner-occupiers
Fiscal subsidies					
Tax exemption KEW*	600	-8532	-9505	851.681	35,6
Deduction for no or small home acquisition debt	749	-10.243	-11.274	257.799	10,8
Regulation					
Lower interest than market interest rate due to NHG**	878	-6278	-7470	766.232	32,0

Source: WoON 2009, OTB calculations (nearly 2,4 million owner-occupiers in total) (Haffner & Heylen, 2014)

*) *Kapitaalverzekering Eigen Woning (KEW)*: the estimated tax amount that the government misses out is equally divided over all households that have a mortgage which qualifies for KEW (e.g. endowment mortgage) (Ministerie van Financiën, 2010)

**) *Nationale Hypotheekgarantie (NHG)*. The costs related to opening an account are not considered. The subsidy levels should therefore be regarded as maxima.

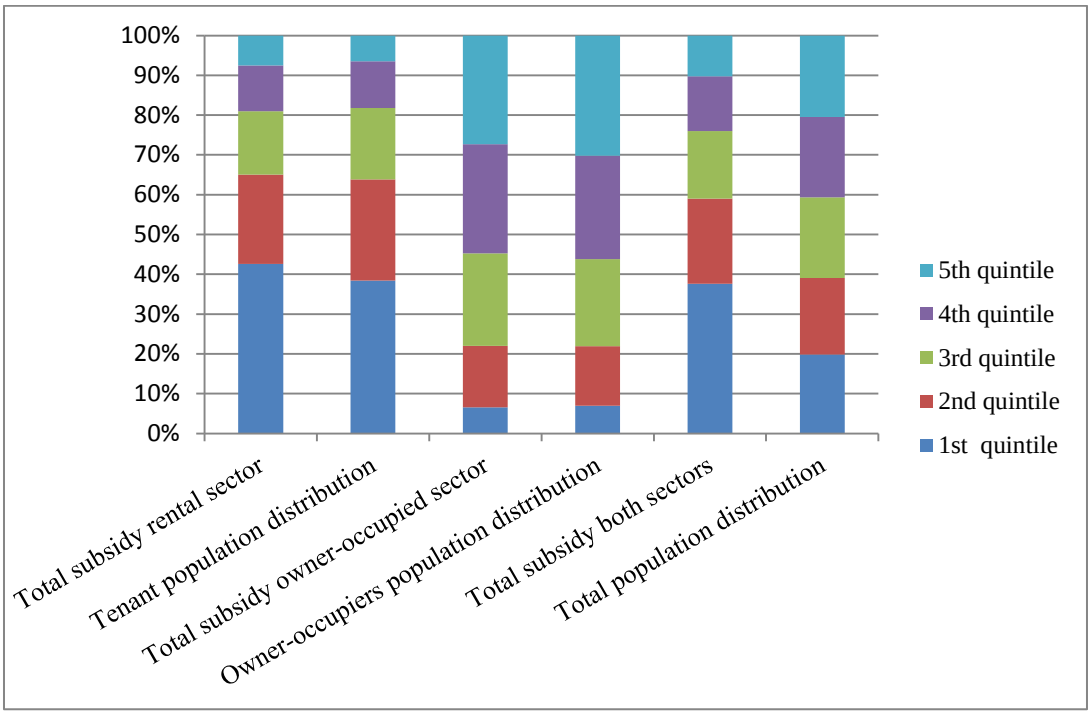
Figure A2. Fiscal housing subsidies for owner-occupiers, moved in the period 1995-2008, total amounts according to (equivalent) income quintiles of the population, and distribution of these owner-occupiers over the quintiles (in %), The Netherlands, 1st of January 2009



Source: WoON 2009, calculations by OTB (Haffner & Heylen, 2014)

Subsidies in both housing sectors

Figure A3. Housing subsidies, for households moved in the period 1995-2008, total amounts according to (equivalent) income quintiles of the population, and distribution of these households over the quintiles (in %), The Netherlands, 1st of January 2009



Source: WoON 2009, calculations by OTB (Haffner & Heylen, 2014)

Summary

This dissertation looks at the affordability of housing and the distributional impact of housing subsidies, in Flanders and the Netherlands. We analyze housing affordability according to income groups and tenure type. Furthermore, we explore how housing subsidies are distributed over these groups, and to what extent they affect income inequality and poverty. The general aim is to analyze the effectiveness of housing policy with regard to affordability. Additionally, the aim is to demonstrate the value of a comprehensive conceptual approach in a comparative analysis. In both the affordability and subsidy analysis two methodological approaches are used: a cash-flow (short-term) and a user cost (long-term) approach. Flanders and the Netherlands can respectively be classified as having a dualist and unitary rental market, according to Kemeny's rental system typology. The analyses are based on survey data for the period 2005/2006 and administrative data of housing subsidies in 2008.

The study reveals that in both Flanders and the Netherlands, about 14% of households are confronted with unaffordable housing, according to the budget method (cash-flow approach). In both cases, the group with an affordability problem is relatively larger for tenants than for owner-occupiers and the largest in the lowest income quintile. The user cost analysis points out that owner-occupiers – in a period of rising house prices – also have a significantly lower user cost of housing than tenants. For both Flanders and the Netherlands in 2005/2006 the expected value increase of owner-occupied dwellings exceeded all the costs involved.

Furthermore, for Flanders, the results point at a clear duality between private and social housing with regard to income composition, actual rent and subsidy impact, in line with Kemeny's typology. The Flemish social housing is rather small and, compared to the private rented sector, rents are relatively low and strongly subsidized. Due to a weak income profile of social tenants in Flanders, affordability based on the budget method turns out worse for this group than for private tenants. In the Netherlands, the differences between private and social renting in terms of actual rent, income profile and subsidy impact are far more limited, according to the presumed unitary rental system. Also, the gap with regard to affordability is smaller than in Flanders. Rent in Dutch social housing is subsidized to the same extent as in Flanders (half of the market rent) whereas subsidization in the private rental market is considerable. While tenants in the Flemish private rented sector are hardly subsidized, in the Netherlands the discussed housing subsidies are received by both private and social tenants. In Flanders social housing is the measure that targets the poor, while housing allowances fulfill this role in the Netherlands. With regard to the owner-occupied sector, the fiscal advantage of the mortgage tax relief is to a larger extent received by high income groups, more so in the Netherlands than in Flanders.

Overall, in the Netherlands, housing subsidies are relatively more directed at tenants and lower income groups. In contrast, in Flanders overall housing subsidization is

disproportionally received by higher incomes groups and owner-occupiers. This means that in Flanders housing subsidies are generally not directed at the groups with the most affordability problems.

Samenvatting

Deze doctoraatsthesis handelt over de betaalbaarheid van wonen en de verdelende impact van woonsubsidies in Vlaanderen en Nederland. De betaalbaarheid van wonen wordt geanalyseerd voor verschillende inkomensgroepen en deelmarkten. Voorts onderzoeken we hoe de woonsubsidies verdeeld zijn over deze groepen en wat hun impact is op inkomensongelijkheid en armoede. De algemene doelstelling is om de effectiviteit van het woonbeleid te analyseren op vlak van betaalbaarheid. Bijkomend willen we de meerwaarde aantonen van een omvattende conceptuele benadering van deze problematiek in een comparatieve studie. In zowel de betaalbaarheids- als de subsidie-analyse wordt gebruik gemaakt van twee benaderingen: een woonuitgaven- (korte termijn) en gebruikskostenbenadering (lange termijn). Vlaanderen en Nederland kunnen respectievelijk beschouwd worden als voorbeelden van een duaal en unitair huursysteem, volgens de typologie van Kemeny. De analyses zijn gebaseerd op survey-data van 2005/2006 en administratieve data van woonsubsidies voor 2008.

De studie toont aan dat zowel in Vlaanderen als Nederland 14% van de gezinnen een betaalbaarheidsprobleem kent volgens de budgetmethode (woonuitgaven-benadering). In beide cases is de groep met een betaalbaarheidsprobleem groter bij de huurders dan bij de eigenaar-bewoners, en het grootst in het laagste inkomensquintiel. De gebruikskostenanalyse toont verder aan dat eigenaar-bewoners – in een periode van stijgende woningprijzen – een aanzienlijk lagere gebruikskost kennen dan huurders. In zowel Vlaanderen als Nederland bleek de verwachte waardestijging van de eigen woning in 2005/2006 gemiddeld groter te zijn dan de kosten van eigenwoningbezit.

Wat de huurmarkt betreft vonden we in Vlaanderen een duidelijke dualiteit tussen de sociale en de private huursector op vlak van inkomenssamenstelling, werkelijke huur en subsidie-impact, in lijn met Kemeny's typologie. De Vlaamse sociale huisvesting is relatief klein terwijl de huur, vergeleken met de private huurmarkt, relatief laag is en sterk wordt gesubsidieerd. Door het zwakke inkomensprofiel van de sociale huurders in Vlaanderen valt de betaalbaarheid volgens de budgetmethode minder goed uit dan voor private huurders. In Nederland zijn de verschillen tussen de private en sociale huursector op vlak van werkelijke huur, inkomensprofiel en subsidie-impact veel minder uitgesproken, wat een bevestiging inhoudt van het veronderstelde unitaire huursysteem. Ook blijkt het verschil tussen beide huursectoren inzake betaalbaarheid kleiner dan in Vlaanderen. De huur in de Nederlandse sociale huisvesting is even sterk gesubsidieerd als in Vlaanderen (de helft van de markthuur) terwijl ook de subsidiëring in de private huursector vrij groot is. Terwijl in Vlaanderen de private huurders amper van woonsubsidies genieten, worden in Nederland de onderscheiden woonsubsidies zowel door sociale als private huurders in aanzienlijke mate ontvangen. In Vlaanderen is de sociale huisvesting een beleidsmaatregel die gericht is op de armere

huurders, terwijl de huursubsidie deze rol vervult in Nederland. Wat de eigendomssector betreft, komt het voordeel van de hypotheekaftrek relatief meer bij de hogere inkomens terecht, in grotere mate in Nederland dan in Vlaanderen.

Algemeen beschouwd, is de woonsubsidiëring in Nederland sterker gericht op de huurders en de lagere inkomens. In Vlaanderen komen de woonsubsidies echter disproportioneel meer terecht bij hogere inkomensgroepen en eigenaar-bewoners. Dit houdt in dat de totale woonsubsidiëring in Vlaanderen niet gericht is op de groepen waar de betaalbaarheid het meest in het gedrang komt.

Résumé

La présente thèse de doctorat est consacrée à l'accessibilité financière du logement et à l'impact répartiteur des aides au logement en Flandre et aux Pays-Bas. L'accessibilité financière du logement de diverses catégories de revenus et de différents marchés partiels est ainsi analysée. Nous nous penchons ensuite sur la manière dont les aides au logement sont réparties parmi ces groupes et sur leur impact sur les inégalités de revenus et sur la pauvreté. L'objectif principal consiste à analyser l'efficacité de la politique du logement sur le plan de l'accessibilité financière. Nous souhaitons également démontrer la plus-value d'une approche conceptuelle globale de cette problématique par le biais d'une étude comparative. L'analyse de l'accessibilité financière et des aides repose sur deux approches : une approche dépenses pour le logement (court terme) et une approche frais d'utilisation (long terme). On peut considérer respectivement la Flandre et les Pays-Bas comme des exemples en matière de système de location dual et unitaire, selon la typologie de Kemeny. Les analyses sont basées sur les données d'une étude menée en 2005-2006 et sur des données administratives concernant les aides au logement pour l'année 2008.

L'étude révèle que, tant en Flandre qu'aux Pays-Bas, 14 % des ménages sont confrontés à un problème d'accessibilité financière selon la méthode budgétaire (approche dépenses pour le logement). Dans les deux cas, le groupe composé de personnes confrontées à un problème d'accessibilité financière est plus important chez les locataires que chez les habitants propriétaires, la plupart appartenant à la tranche des revenus les plus faibles. L'analyse des frais d'utilisation démontre également qu'au cours d'une période d'augmentation des prix du logement, les frais d'utilisation sont considérablement plus faibles pour les habitants propriétaires que pour les locataires. En Flandre comme aux Pays-Bas, l'augmentation de valeur escomptée du logement propre en 2005-2006 a été en moyenne supérieure aux frais de propriété.

En ce qui concerne le marché locatif, nous avons remarqué en Flandre une dualité claire entre le secteur de la location social et privé en matière de composition de revenus, de loyer effectif et d'impact des aides, conformément à la typologie de Kemeny. Le logement social flamand est relativement restreint, tandis que, par rapport au marché locatif privé, la location est relativement limitée et fortement subsidiée. En raison du profil de revenus peu élevé des locataires sociaux en Flandre, l'accessibilité financière est inférieure à celle des locataires privés, selon la méthode budgétaire. Aux Pays-Bas, les écarts entre le secteur locatif privé et social en matière de loyer effectif, de profil de revenus et d'impact des aides sont nettement moins prononcés, ce qui confirme le système locatif unitaire supposé. La différence en matière d'accessibilité financière est également plus faible qu'en Flandre. La location dans le domaine du logement social bénéficie d'aides aussi importantes qu'en Flandre (la moitié du marché locatif) tandis que le secteur locatif privé reçoit lui aussi des subsides relativement

élevés. Alors qu'en Flandre, les locataires privés bénéficient à peine d'aides au logement, aux Pays-Bas, les différents subsides sont perçus dans une très large mesure tant par les locataires sociaux que privés. En Flandre, le logement social est une mesure politique axée sur les locataires les plus démunis tandis qu'aux Pays-Bas, cette fonction est remplie par l'allocation de logement. En ce qui concerne le secteur de la propriété, la déduction hypothécaire, objet de nombreux débats, accroît l'inégalité de revenu au sein de la société et ce, dans une plus large mesure aux Pays-Bas qu'en Flandre.

En règle générale, l'aide au logement aux Pays-Bas est nettement plus orientée sur les locataires et sur les revenus plus faibles. En Flandre, les aides au logement sont toutefois octroyées davantage et de manière disproportionnée dans les groupes plus élevés de revenus et chez les habitants propriétaires, ce qui signifie que l'aide globale au logement en Flandre n'est pas axée sur les groupes au sein desquels l'accessibilité financière est la plus précaire.

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EN
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